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ABSTRACT

This document presents a series of vignettes (or mini-case studies) which describe specific media-related activities which have been implemented with primary, intermediate, and junior high school students. The vignettes are, for the most part, presented in the teachers' own words, and provide ideas for using both print and nonprint materials to create lively, interesting lessons. The activities included fall into using media to: (1) develop creative thinking, (2) conduct research, (3) work in groups, (4) improve skills, (5) deal with attitudes and values, and (6) design curricula using a systems approach. A 17-item bibliography is appended. (Author/LLS)

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USING MEDIA IN THE ELEMENTARY CLASSROOM

A Series of Vignettes

by Martha Tyler John

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Using Media in the Elementary Classroom

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Other recent publications include (a selected list):

Chase, W. Linwood and Martha Tyler John, *A Guide for the Elementary Social Studies Teacher,* Third Edition. Boston, Mass.: Allyn and Bacon, Inc., 1978.

Lapp, Bender, Ellenwood, and John, *Teaching and Learning: Philosophical, Psychological and Curricular Applications.* Macmillan Co., 1975.

John, Martha Tyler, *Basic Skills for Young Children: Social Studies Activities, and Language Development Activities.* (In process—a series is planned).

John, Martha, "Teaching Children about Older Family Members," *Social Education,* October, 1977.

John, Martha, "Career Education: Skills for Living in the Real World," *Social Science Record,* Winter, 1978.

Cuber, John, Martha Tyler John, and Kendrick Thomson, "Should Traditional Sex Modes and Values Change?" Chapter 3 in *Controversial Issues,* the National Council for Social Studies 1975 Yearbook.

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John, Martha Tyler, "Rationale and Recommendations for a Graduate Teacher Training Program," *Journal of Education,* April, 1970.

John, Martha Tyler, "The Relationships of Imitation to Children's Ideational Fluency," *Journal of Education,* February, 1972.

John, Martha A., "Multi-Media Network: A New Curricular Design for Studying Africa," *Audio-Visual Instruction,* March, 1970.

PUBLISHER'S FOREWORD

As with other critical issue papers published by INFORMATION FUTURES, Dr. John's manuscript is presented with no content editing nor changes in inferences or concepts as developed. It is the purpose of INFORMATION FUTURES to provide, through the issue papers series, direct access to the thinking of scholars and practitioners in the educational technology, audiovisual or media, or library/information services fields.

In *Using Media in the Elementary Classroom* Dr. John presents a series of vignettes (or mini-case studies)of effective teaching and effective support of learning activities. The vignettes are, for the most part, presented in the teachers' own words. The vignettes will provide ideas to other creative teachers on how to maximize the learning experiences presented to boys and girls in the elementary school.

The vignettes show a warmth for learning, a love for students, and an eagerness to be "a good teacher" on the part of the teacher providing the report.

It is hoped that through the presentation of the vignettes others will discover new strategies that will further improve classroom teaching-learning practices.

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INTRODUCTION

Many classroom teachers and elementary media specialists have clever ideas for helping children learn. Media, direct experience involvement and grouping strategies are often used by them to make learning more exciting. The descriptions of lessons or vignettes in this book were written by teachers and tell about the specific activities they carried out in a given lesson. Book and non-book materials were used to create lively, interesting lessons.

Organization and connecting ideas have been furnished by the author and a curricular design that utilizes a media network of activities is included also. This multi-media curriculum design promotes maximum use of media and optimum benefit for the student in dealing with an organized body of information and ideas.

The real world of children is ablaze with color and stirring with movement. There is beauty and plainness, sound and action everywhere. Children interact with this barrage of sensory stimuli. They respond in a hundred ways, and from the color and action and sound around them develop an impression of the world that has a lasting effect. Vives, the Spanish teacher who was the instructor of Princess Mary of England in the early 1500's wrote fondly of his boyhood experiences in Valencia. He left Valencia at the age of seventeen and never did return, but in his writings years later he still reflects his love for that beautiful city. One historian writes, "Vives is remarkable in that he never turned his back on himself. He became a cosmopolitan, but he took his Spanish foundations, traditions, atmosphere with him wherever he went, and transfigured old and new experiences with the richest spirit of humanism" (Watson, 1922, p. 15). Perhaps all of us intentionally or unintentionally take with us the direct experience impressions of childhood. The natural and technological environment in which we live influences us sharply. In this book you will see learning experiences that interweave direct experience in the natural setting and use of media in contrived situations in clever ways.

We are all familiar with the idea that direct, experiential involvement is important in the learning process. We are also aware that, practically speaking, it is difficult, even impossible, to investigate everything directly. However, numerous direct experiences are available to children in an action oriented school, and mediated experiences can be an everyday happening if technology is used creatively in the classroom. The use of media can provide within the classroom the sights and sounds of the colorful, vibrating real world. Media provides unusual stimulation for research, and great variety in the information intake process. It also provides a wide range of possibilities for creative expressive output, and has potential for captivating an audience in the communication and sharing of research findings.

As you read you will sense an enthusiasm for individual research and a lack of fear on the part of the teachers in using equipment and media. This was not always the case, but an in-service training program containing demonstration and actual work sessions helped to bring about the comfortable, almost casual, acceptance and use of media, and the desire to develop research oriented students. It is also used to help children produce creative products and to promote social interaction and an understanding of the feelings of others. Hopefully, you can gain some ideas from these descriptions that will help you in your classroom.

CHAPTER 1
USING MEDIA TO DEVELOP CREATIVE THINKING

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USING MEDIA TO DEVELOP CREATIVE THINKING

The classroom offers many opportunities for the use of student's creative talents, but it is necessary for the task to provide stimulation and for students to have some range of choice if their abilities are clearly demonstrated.

It should be remembered that the development of any creative idea into a shareable, finished product requires determination or mind set--sometimes called singleness of purpose. That is, the individual is able to keep at the task against all odds. People often ask the creative person, "How do you find the time to do this?" Because he feels that the product is worth sharing, the creative person steals the time.

The completion of the product will also require the application of skills. The individual will need skill with words, skill in using understandable, standard music form or skill wih a sculptor's tools, for example.

The person who is creative will also need a certain independence of judgment, because he is producing something new, and people may respond to his idea in any number of ways.

Let us look at a specific example in which some of the elements required for creation are clearly demonstrated. One teacher provided his class with four topics from which to choose, and four different procedures that would lead to a product. The topics were Reformation, Renaissance, Feudalism in the 14th and 15th Century, and the Beginning of the Trade Unions. The procedures suggested were: write a play, poems, diary, or a short story. A dual choice of topic and process provides a rather large number of possibilities.

One student selected Reformation, and after much debate, and in fear and trembling decided to write poems about this topic ("the rest of the class is writing short stories"). The teacher had suggested 1,000 words, and the student felt that he could not produce that many in poem form. His first effort was as follows:

Blurred Focus

Martin Luther stands right over there,
That's Wittenburg Chapel,
Hear him offer his prayer,
Faith alone can save mankind;
No pope's supreme you'll find.
Reformation, reformation,
Hear him cry!
Reformation,
Or we die!

See the Pope in his rich robes so fair
He worships in Rome,
To contest him none dare.
Defender of the faith is he.
Ninety-five theses-heresy!
Reformation, reformation,
Hear him cry!
Reformation
The church dies!

See the man on the cross in the air;
He's lost his life,
But no one seems to care.
Will they love him more in time?
Can they ever be thine?
Reformation, reformation,
Hear him cry!
Reformation
I have died.

This seemed a worthwhile beginning. Other poems or poetic prose followed slowly and the project was finally finished. The student was still loath to hand in the work because he had only 756 words, and because all the other kids were writing short stories. He did hand in the work, however, and the teacher's response was overwhelmingly supportive of his effort.

The example just provided points out some ideas about the creative process that might be worth examining more closely. First, in order to evoke a creative response, some choices must be open to the student. This was done in the example given, and you can do this in your own classroom. Secondly, the student who tries to produce a different kind of response may feel some doubt about selecting a mode of response that differs from the rest of the group ("The rest of the class is writing short stories"). The teacher can actively encourage unusual responses and this may help students dare to respond in different ways.

The third idea one might glean from the example given is that having chosen a different mode of response, the student may feel great insecurity about his product. It may be difficult for a very divergent response to meet a suggested standard criterion (1,000 words). Because of this, the teacher may wish to provide guidelines, but suggest that they are only guides and that some products may differ from these guidelines.

Creative thinking and expression are sometimes delicate gossamer and sometimes as set and determined as hardened steel. It is a precision balancing act for a master teacher to determine when to support and encourage, and when to leave the creator alone with his own thoughts. No gimmick can be given to you that will allow complete success with this task. Real human sensitivity is necessary, and that is a quality not easily described or taught.

The vignettes that follow describe teachers' attempts to encourage divergence and to provide opportunities for children to use their own ideas.

DETACHMENT-INVOLVEMENT

The technique described in the vignette that follows is one that will almost force the student to see new relationships. W. J. J. Gordon* of M.I.T. has a term that he uses to describe scientific creativity. Synectics is the "joining together of different and apparently irrelevant elements." In other words, seeing a relationship that one did not see before. He says that one of the "mental states" that facilitates this creative behavior is detachment-involvement (take an object out of its usual setting, remove the problem--see it differently and then become involved in order to produce new insight.) This procedure forces one to look more closely, or to see the object as he has never seen it before.

The students in studying South America had probably seen the shape of the continent but the shape and relative location of countries had not been clear. Test yourself. You know South America at a glance, but can you actually think in terms of relative size and shape of more than a few obvious countries? The students found that they could not.

As you read this teacher's description, you may think of other situations in which you might take an object out of its natural setting to provide closer examination of details. This could be done in human relations situations or in analyzing a character in history. Many possibilities exist for the creative teacher.

> My little exercise was a simple quickie, but I think it had two purposes. One was for fun. The other was to help develop an awareness that I think many adults have failed to develop--recognizing the relationship of one country to another as far as size and position. We had been studying Latin America, particularly the countries of the Andes Mountains in South America, and at that particular point I thought it would be good to try this exercise. We did it with the use of the overhead projector. We used cut-out outlines of the countries done in construction paper and joined them on the overhead in any position. At first I wanted to see if they could identify the countries just from the shape, and then I wanted to see if they could put them together in relationship to the other countries. This would actually force an awareness of relative location.
>
> At the beginning with the outlines thrown helter-skelter on the overhead, I asked if they could identify the various countries. I would point to a particular country and ask if they could tell me the name of that country. The students responded quickly with the correct name. I was a bit surprised, but pleased, that they could respond so readily with the correct answer. Then I said, let's see if we can put them together in their proper relationship,the way they would look on the map. This took a little longer, but they seemed quite interested. Even though there was someone standing by the overhead projector trying to put them together, the rest of the class could see the countries on the overhead and could be thinking how they would put them together. I reminded them to be ready to do it, in case "so-and-so" couldn't complete the map. They were very enthused and had their hands up just waiting their chance. After a while we got them together. It was a test for me as well as for the students.

By Linda Harriman

*W. J. J. Gordon, *Synectics—The Development of Creative Capacity* (New York: Harper, 1961).

NO CAPTION-FILMSTRIP

Perhaps most of us have times when we would be happy to have someone else do our thinking for us. Sometimes we have to see a really perplexing situation in order to get our minds actively involved again. The lesson presented here was based on a filmstrip in which a number of the frames were not completely understandable. The teacher was providing for pupil involvement, and was simultaneously encouraging divergent thinking. There were no answers given by the teacher or by any student to the problem frames. This seems worth mentioning because an answer given would provide an opportunity for modeling or imitating the thinking of the respondent and allow the students to forget the perplexity. Silent responses produce many answers that can be the basis for interesting comparisons later on as the second showing proceeds or following the second showing.

The lesson also emphasizes "the right to be wrong." The teacher stresses the idea that there are many different interpretations of the same data and that this is to be expected. If one is interested in students raising questions and producing creative answers, this "right to be wrong" is most important. Such thinking is avante garde and experimental and may often contain erroneous bits or inconsistent areas. Still it is worthwhile to encourage insightful questioning and the production of creative responses to the questions raised.

One might also infer from this experience that several sources of information intake help provide a clearer picture than a single information source provides. There was no attempt made to make this inference implicit. Here is a description of a lesson developed and taught in a suburban elementary school.

> This lesson involved the dual use of a no-caption filmstrip. The first time it was shown, I explained to the children that this was a "thinking" part of the lesson. A filmstrip that had no captions was used intentionally, with the idea that later on a record would be added to the showing to explain what all the pictures were about. The subject we were studying was "the Congo Basin." I wanted to show a tropical rain forest type climate, and the activities that people are involved in there. The filmstrip began with geography of the area. As the frames were shown, the children were encouraged to look for pictures or items in pictures that they were not sure of. I would call their attention to something on the filmstrip, or I would say, "What is this showing you about the land?" or "Are you sure you know what this is a picture of? I'm not sure." Then I let them think their answers rather than saying what they saw. I was trying to get them to feel that it is allright to be unsure of some of the unusual or strange things they saw--that we might all have some questions.
>
> The second time through the filmstrip the record player commentary was added. With the sound, now, the children could see that what they had thought was there, actually was there or that frames that had raised questions in their minds had perhaps been a puzzlement to others as well. The verbal explanation clarified these very quickly. During this showing, again, I tried to establish an acceptance of questioning or doubt by stopping the record and saying, "I wasn't at all sure what that was supposed to be, were all of you?" I wanted them to see that one needs to have more than a single picture to get a real understanding of a people or an area.

A comment or two about the media used might be in order. The filmstrip with no caption is very useful. Children have to form their own judgments and think as they go. The best type of record player to use in such a lesson is an "instant pause" type so that you can stop the record player at a particular spot and discuss with the children what's going on without having to wait until the whole record is finished. When you wait, sometimes you lose the idea you had or you lose the particular picture you wished to comment on. The concepts we covered in this particular filmstrip dealt with geographic features, activities by the people and their looks and dress, means of transportation, communication, and the crafts that the people produce.

I found this type of media use to work well in other content areas as well.

By Janet Simmons

COMPARING COMMUNITIES

If one is interested in helping students develop original thinking about familiar topics, a special effort must be made to stir the imagination of the child. In the vignette that follows, the teacher does this by comparing the community in which the children live (Brunswick, Maine) to other communities of the same name. One of these communities is in Brunswick, Georgia and the other is in Brainschweig, Germany.

The lesson sequence encouraged the use of hypothetical thinking by asking the children how they thought these towns in Maine and Georgia might be alike and how they might differ. These hypothetical statements were based on map observations only. Later in the sequence, the hypotheses were checked out in research sources.

You can imagine the increased involvement of the students as they correspond with children in Georgia. Media was used to further promote the air of reality about the compared communities, and to increase the level of student involvement.

The teacher used several different kinds of grouping. The children worked in two or three person teams for the information gathering phase, and then in ten person teams for producing the mural (a tangible, sharable, expressive output of information). The children also participated as a total class in some phases of the lessons (e.g., viewing Brainschweig slides). All the uses of media and grouping variations helped produce increased participation throughout the class, and a much improved total class product. The following is a lesson comparing Brunswick, Maine with Brunswick, Georgia and Brainschweig, Germany.

(An Imaginary Trip from Brunswick, Maine to Brunswick, Georgia)

We first discussed taking trips in general, including trips the children had taken, why people take trips, and how people travel. We also talked about other ways of taking trips without leaving our homes or schoolrooms (imaginary trips through reading and research).

Then, using an overhead projector and a transparency of the United States, the children located Brunswick, Maine and Brunswick,Georgia. We compared the two towns on map information only. Noticing that they are both

coastal towns, we discussed possible likenesses and differences that might exist in the two places. The children thought the food would consist of sea food in both places, but were not sure about the water temperature and therefore, thought there might be some different kinds of sea foods (they doubted that any place would have lobster of the same quality as the Maine lobster). They felt that people would swim and boat a lot like they do in Maine. Some suggested that it would be warmer swimming and this led on to ideas of what a warmer climate means in terms of clothing and houses. A number of ideas were suggested.

Next we listed all the states we would travel through to get to Brunswick, Georgia from Brunswick, Maine. I divided the class into groups of two or three to work together. One child was appointed secretary for each group. I had previously written the names of the states between Maine and Georgia on separate slips of paper and placed them in a box. Now the secretary from each group drew one of these slips of paper from the box. After this was done, each group made a list of things they might want to see or visit on the way south in the state they had chosen. They did this using books about states and *National Geographic* magazines and other resource materials, such as pictures and travel pamphlets I had collected.

When the lists were completed with places of interest under each state, each group went to the library to do more research on these places they wanted to see. We used films, filmstrips, books, magazines,etc., to obtain information. If nothing was available on a particular place of interest, another place was substituted.

One group wrote to the Chamber of Commerce in Brunswick, Georgia for information, which sent maps and pamphlets giving information about the city. There were enough pamphlets for each child in the class. All the children wrote individual letters to a third grade class there, but we received no answers.

After all the information was investigated and researched, the children wrote a little travelogue of the particular places we were to visit. They also drew pictures of these places, pretending they were snapshots they had taken while visiting there.

When all of this was finished, we invited the other third grade rooms to listen to the adventures of our trip. We used the overhead projector to trace our trip on a map starting at Brunswick, Maine, and the opaque projector to show the "snapshots" of our trip. One child in each group traced his group's part of the trip, another child read the travelogue and the other child showed and told about the pictures. Each child in each group had his own job for which he was responsible. The children ran the machines themselves.

Since our Chief of Police had visited Braunschweig (Brunswick), Germany and had beautiful slides, we invited him in to show the slides to our class and talk about them. This gave us three different towns to compare.

Then we divided into three groups, with each group having a leader. The groups discussed the information we had gathered about the three places, and then each group made a mural. One was of Brunswick, Maine, one of

Brunswick, Georgia, and one of Braunschweig, Germany. Each group wrote a story to go with their mural.

The trip seemed so real to one youngster that when he found out we were not really going, he became quite upset. When asked what he thought we could have used for transportation for a trip like this, he replied, "We can always go by school bus!"

By Elizabeth Yanok

STUDENT PRODUCED FILMSTRIP

You will enjoy this description because it shows clearly the creative results that can be the outcome of relaxed, mutually respectful, teacher-pupil interaction. The teacher's dilemma was understood by the students. The students' ideas were welcomed and acted upon by the teacher. A cooperative, productive venture ensued.

The students were very careful in the production of their masterpiece. They worked at their separate pictures in spare time as well as during Social Studies time. The final product was of excellent quality and the learning and research that went into developing the filmstrip was probably more extensive than it would have been if the commercially produced filmstrip had been used.

During the study of the Congo, I had planned to use a filmstrip/record combination. However, the filmstrip failed to arrive and I was about to abandon the project altogether, when the students suggested that we make our own filmstrip. By listening to the record the children and I were able to list scenes that could be illustrated. Usually the section between "beeps" was designated as a single picture. The class then divided for purposes of making preliminary sketches on drawing paper. Each child chose the portion from the list that he wished to illustrate. Reading and research were necessary to determine the content of the proposed picture. For example, if a person were to draw a picture of several people in a village, he had to know the way the people dressed, the kind of houses and vegetation that would normally be found in the background in such a region.

Each person completed his sketches and then, the opaque projector and the record were used to test the preliminary effect of the combinations and to check the sequence before using the acetate roll.

The acetate roll was then spread out on the floor and sectioned off in squares the size of the overhead reflector plate. (The head of the roll must be noted carefully, as well as, the direction of the sketch when it is being drawn on the roll.) The sections were numbered off to match the sketches the students had made on drawing paper. Water-soluble colored marking pens and/or grease pencils were used to reproduce the pictures. The pictures were then rolled across the overhead as the record was played. The students were pleased with their effort.

We were able to compare our interpretation of the record's descriptions when the commercial filmstrip finally arrived.The children quite naturally preferred their own product, and noted with pride all the detail they had been able to include in their pictures.

There are several other possibilities in using student produced filmstrips. For example, one group of children might produce a filmstrip illustrating a story related to the Social Studies unit (e.g., Peter and the Dike, Netherlands study), and another group might record on tape the story to be played simultaneously.

Acetate sheets can be taped together forming a filmstrip, rather than using the acetate roll.

By Janet Simmons

MOVIE MAKING

Most youngsters have a goodly amount of ham actor in them. Some teachers have a bit of this, also. It is fun to be a star, even in a local school production. A real actor tries to understand the thinking and feelings of the person he is portraying. He wants his performance to be authentic, like real life. The young actors you are going to read about stayed out-of-doors for two hours in the cold Maine winter weather so that they would be cold and, thus, be able to produce a more authentic enactment of Valley Forge.

If one is making an 8mm movie that is to be based on historical facts, the obvious first step is to do some research. The students in this production did research, and worked very hard to produce props that would lend an air of reality to the performance. Library books, filmstrips, tapes and books had to be studied, and the students delved into details about clothing and weaponry that had not been considered by other fifth grade groups that were studying the Revolutionary War. Their desire to produce a quality picture increased their research zeal.

The most important scenes had to be chosen and more detailed research done on the five or six scenes decided on. Where to film each scene (inside or out-of-doors), what backgrounds were to be used (should one be painted or is there an actual setting that could be utilized?), what props were necessary, and should costumes be used, were all questions that had to be considered and resolved before filming. The actual dialogue or spoken description was left until later and was worked out on tape in coordination with the film.

Small groups of students worked on each scene. Some were actors in the scene, and some were not; but as a group they determined the direction of the scene and later wrote and tape recorded the wording. If a painted backdrop was used, the particular group wanting the backdrop made it, or sometimes a separate group of "artists" who specialize in scenery preparation helped prepare it.

Before any actual "shooting" of the film took place, there were several class discussions about the information found, and what each group was considering doing for its scene. Others in the class were able to add ideas, suggest locations for shooting, props available, etc.

When the actual shooting took place, the teacher sometimes operated the camera, or on occasion an A-V person or a student did so. As soon as one film was developed the whole class was anxious to see it. Parts were cut out or rearranged (using a splicer and viewer). At this point the groups began working at writing the words they wanted to use to go with their scene.

Once the film was developed the students read their parts while the film was running so that the tape would coincide with the film. In some places script had to be cut; where dialogue was too short, it was expanded or music was added (this was a good chance to

work with the music teacher who assisted in teaching the children the appropriate songs and in recording them on a separate tape).

The making of the tape to go with the movie was a long, and arduous task. The teacher and students remade some parts several times.

The end result was a most interesting product. The film/tape has been shared at state and regional meetings, and teachers consistently enjoy it and are challenged by it. It is educational--seeing the intensity of the youngsters, and imagining the amount of effort that went into this fine history lesson. It is funny--seeing little ten-year-old boys going through these battles. It may even be a bit eerie--wondering whether we may look like ten-year-old boys ourselves sometimes in war situations.

The teacher is an important variable in making such a product possible. Mrs. Shea is a very intelligent woman who has a fine sense of humor, and a rather easy-going disposition. All these qualities were called upon repeatedly in this production. You will undoubtedly enjoy her account of the process.

How Our Fifth Grade Class Made a Movie

We chose the American Revolutionary War as our topic. The librarian culled out all the books, records, tapes, filmstrips, etc., that our library had on the Revolutionary War. The students began pouring over all the material available. Important ideas were jotted down. After working individually and/or in small groups for a week, a class discussion was held to decide which scenes to do. Since most of the scenes decided on involved men and no women, it was finally decided that only the boys would do the movie and the girls would be divided into two groups (of their own choosing); one to paint scenery and one to produce a play. Fortunately, we have a full-time librarian who worked with the play producers during the times that the boys and I were doing the actual shooting of the scenes; and a library clerk, who is artistic, worked with the girls who painted the scenery (a teacher's aide or volunteer helper could be utilized).

A letter went home to each parent explaining what we were doing, the various skills the children would be learning, such as research techniques, sequence, choosing important ideas, etc.; asking for their assistance with props, costumes, or ideas. This was very important in getting wonderful cooperation and understanding from the parents.

Since it was February when we were discussing the scenes, someone suggested we do the Valley Forge one before the snow disappeared. Committees were formed for each scene and the Valley Forge committee did some specific research. They then rounded up three small tents (the idea of making huts was entertained but discarded) and some wood for a fire. I called the fire department for permission, in spite of the fact that there was three feet of snow on the ground. (An example of correct safety procedure is always useful!) An old black kettle, some guns, and old sheets to be torn up for bandages completed the collection of props.

Enthusiasm ran high on the first day of shooting. The committee went out ahead to set up the tents at the back edge of the playground where trees formed a backdrop; they even came up with the idea of painting the words

"Valley Forge" on a tree. When they were ready, the other boys (properly bandaged) went out to wade in the snow. The camera had to stop several times while disputes were settled, and once to have a good laugh while pulling teacher out of a hole in the snow where she had sunk in up to her hips!!

The second scene of the Boston Harbor was acted out a month later out-of-doors (school vacation and other things had interrupted us). The "artists" had gone to the library several times where they painted the Boston Harbor on a piece of paper about eight feet long and three feet wide. While looking this over with the committee, we wondered how we could throw boxes into this harbor. It was not high enough for the boys to stand in front of. An idea finally came to paint another piece the same length showing the railing of the ship; this could be stuck onto two tables, turned on edge out from the wall, and the boxes thrown over the railing.

The filming of this scene was discussed, and some boys wanted to bare their chests and paint themselves as Indians, while some were too modest, so wore blankets! Boxes were obtained from a grocery store, and a hatchet, knife, and two guns were brought for props. When this was to be filmed, our school office called the local newspaper so we received our first publicity with a picture of us in the paper.

We thought for quite a while before we came up with a bridge for our Concord scene. Someone finally suggested a small stone bridge at a private boys' school about eight miles away. I called for permission to use it and arranged for a bus to take us over. The eleven boys had to be both Patriots and Redcoats. We collected all the red flannel shirts we could from fathers (particularly those who hunt) and borrowed all the patrol boys' belts for the uniforms of the Redcoats. Research on clothing showed the three-cornered type of hats worn and we made a front out of construction paper (here the girls helped again) and a band around the back attached with masking tape. All the guns that could be rounded up wee used, plus a couple of pieces of wood! We took all the scenes of the Redcoats marching and firing at the bridge; then the boys got back on the bus and changed into their Patriot clothes. The large grounds at the boys' school made a good Lexington "Green," and a bonus we had not planned on, a stone wall, helped us with the march back to Boston.

The scene of Paul Revere was done hurriedly one morning before school because we were beginning to feel pressed for time. It was not sufficiently planned and thought out, and was too short for the boys to say much about it later. We never found time to shoot any scene over again.

After viewing each film as it was done, the boys decided to leave Valley Forge first and do a "flashback," so a short scene of planning the Tea Party was added. By this time, all the props and costumes were home, so modern clothing was used.

Making the tape was the tiresome part of the whole process. Some groups did an excellent job of writing appropriate script for their part of the movie, and other groups needed asistance. A local resource person was used with one group. He was a man who had written several published plays. He came in one afternoon to work with one group to help organize their ideas. After the movie

was spliced together the way we wanted it, each group recorded its part in order. We practiced with the movie, then taped it, played it back, taped it again, added music from a second tape recorder (originally we used a record but changed later to music of a volunteer group who stayed after school several nights to rehearse and record with the music teacher). The tape was still not perfect, but was acceptable.

The ending, which was the "credit" portion of the film, was made by printing the names of the actors and artists on a role of acetate from an overhead projector. With the school flag in the background, one boy stood on a chair and another sat on the ground, slowly turning the roll as I photographed it.

Just before school ended, we invited the parents in to share some of the things we had done during the yer. Two of the things were the play the girls had written about a family who lived opposite Lexington Green and the movie the boys made on the American Revolutionary War. Everyone went home happy that day!

By Dorothy G. Shea

SUMMARY

From the descriptions you have read, it should be clear that students can produce creative products. The teacher and the librarian and media specialist can contribute to the creative process in several ways:

1. Be conscious of opportunities that allow for creative ideas.
2. Believe that students can produce worthwhile creative products.
3. Devise ways of finding what students know:
   a. Collect different responses to a given stimulus.
   b. Write the first line of a poem, story or report.
   c. Explore words, ideas through books, films--then tape the discussion that follows for future reference.
4. On a given topic, provide many kinds of input/output.
5. Organize and assist in clearing production hurdles.
6. Be a bit of a "risk-taker" yourself.

CHAPTER 2
CONDUCTING RESEARCH

CHAPTER 2

CONDUCTING RESEARCH

Research is a scholarly effort to answer questions or dispel vagueness about a particular topic. A research effort is the result of someone's curiosity. Initial mild interest becomes stronger as the person considers the topic, and, finally, he becomes so curious about the topic that he is driven to "find out" about it. Curiosity is a strong motive for learning, and it behooves the teacher to provide situations that entice latent curiosity out into an open, action-oriented curiosity.

John Dewey* felt that problem solving consisted of (1) *a felt difficulty*—the occurrence of something perplexing in our experience. Bruner calls this an "interesting uncertainy"; (2) *the location and definition of the specific difficulty* (choosing a topic); (3) *the rise of suggestions and possible solutions;* (4) *the mental elaboration of these hypotheses*—if/then thinking (you will note that this can be utilized at the end of a research effort, but that it actually stimulates new research in Dewey's model and is used in this book in the beginning of a new research effort); (5) *further observation or experiment,* some of which may lead to the acceptance or rejection of the hypotheses or the development of new hypotheses.

INITIATING RESEARCH

There are different ways of involving the student in research ideas. One can, for example, provide a familiar situation that is *not* curiosity provoking, and then change an important element—a prime variable—to provoke speculation or hypothetical thinking. The hypothetical "if this were true, then . . ." tends to arouse the curiosity. It is said that all hypotheses have two common characteristics: "(1) They go beyond the given to a possible patterning or arrangement or interpretation of it; and (2) they do so provisionally, with a definite view to ultimate confirmation or rejection after testing" (Harold A. Larrabee, 1964, p. 127). If the student had gone beyond the given, the teacher can then provide resources for determining whether or not the "educated guesses" were valid. This technique stimulates interest and produces many researchable ideas.

The vignette that follows is one that introduces a new research emphasis by utilizing the previous unit and building curiosity for the new unit via hypothetical thinking. The prime variable that was manipulated was the difference in amount of rainfall. "What would this land look like if there were no rain . . .?" Using the children's expressive artistic output, the teacher builds an interest in finding out more about dry regions. Finally she provides a sheet dealing with every day, child-centered concerns to give some focus for further speculation. These sheets will serve as a good checklist to see if ideas change as one gathers more information on a particular topic.

A similar approach might be used to deal with very different governments with different latitudes, attitudes, different levels of technological development, etc. Verbal or written or sketched speculations or a combination of these expressive outputs might be used depending upon the grade level and particular strengths of the group.

*John Dewey, *How We Think*, 1910.

The approach just described is one way of initiating research, and uses the curiosity of the individual to produce interest in learning. The description that follows was written by a rural teacher who is so fine and logical that her lessons always capture the imagination.

IF-THEN

The purpose of this lesson was to introduce a unit of study on hot, dry lands by reviewing a unit of study we had just completed on hot, wet lands. Before the lesson started, I passed out a half sheet of drawing paper; a small, inexpensive atlas; an outline map of the world; and a dittoed question sequence to each child. I began the lesson by showing pictures on the opaque projector about tropical rain forests. These pictures included animals, homes, people, and plant life. Then I asked the question, "What would this land look like if there were no rain for ten years? Would it be very different? How would it be different?" I had the children draw a sketch of what they thought it would look like on the sheet of drawing paper I had given them. After about five minutes, I collected the sketches and showed them on the opaque projector, having the children note what things were different and what things the same in all the pictures. The students' responses were collected on the board in two separate columns: things that have changed and things that remain the same.

Then I posed the question, "We use a term to describe the kind of land you see in the pictures you have drawn. Does anyone know what the word is?" The children responded with "desert," and I asked them to give me a definition of the word, which I used as a comparison with their later research. The children then examined a world rainfall map in the atlases on their desks. At the same time I placed a world transparency map on the overhead projector and had the children come up and mark the areas where there was very little rainfall. (Before I had them mark on the map, I discussed with them the key showing the meanings of the various color swatches on their atlas maps.) I also had them mark dry areas on the dittoed maps of the world which I had passed out to them.

Finally I had the students answer the questions on the second dittoed sheet (see illustration) with what they thought were the correct answers. I kept these sheets as a kind of pre-test evaluation form to compare later with their ideas after they had researched the subject. I told the children to be alert to any changes in their ideas as they read and studied about hot, dry lands.

By Donna LaPierre

NOTE: The teacher's description is useful, but the same information can be presented in a sequenced fashion. Some teachers may find one more useful than another and thus, both are included on some of the more complex procedures. Following is a lesson outline covering the dry lands class session.

INTRODUCING DRY LANDS

Have on pupils' desks before lesson starts:

a. Half sheet drawing paper
b. Small, inexpensive atlas
c. Dittoed outline map of the world
d. Dittoed question sequences

Class Procedure

1. The teacher uses the opaque projector and a number of pictures about the tropical rain forests. Th; pictures include some of animals, homes, people, and plant life.

2. The teacher then poses the question,"Now, let's think about what this land would look like if there were no rain for ten years. Would it be any different? How do you think it would look?"

3. The teacher now suggests that the children draw a sketch of what they think this land would look like. (a. Use half sheet of drawing paper.)

4. When the sketches are done, they are shown to the class on the opaque projector. The children look to see what things are different in the pictures and what things are the same in all the pictures.

5. "We use a term to describe the kind of land you see in the pictures you have drawn. Does anyone know what that word is?" (Desert) "What does this mean?" The teacher copies their temporary definition. (The teacher will use this for a later comparison following their research.)

6. Since the children have suggested that it is a dry area, the teacher suggests that they look at a rainfall map. (b. Each child has a small, inexpensive atlas.)

7. The teacher asks what the colors in the color swatches a the bottom of the page represent. "Which one will be the one we look at that will show us dry land?" Pupils respond and look at all color swatches.

8. On the overhead projector at the front of the room, the teacher uses an outline map of the world. She asks the children which area she should color in to represent desert? She colors in one area, then suggests that they color in the rest of the areas on their map. (c. A dittoed map of the world.)

9. Those who finish first may select another area to color in on the overhead projection map at the front of the room.

10. Finally the teacher tells the children to fill in the boxes (d. Dittoed question sequence) with what they think might be the right answer. (The teacher then keeps these as a kind of pre-test evaluation form.)

11. The teacher then tells the students that they will research and check-out their hypotheses following this initial involvement. They will look to see if any of their ideas change as they read and study about the dry lands.

4th Grade

NAME SOCIAL STUDIES (HOT & DRY LANDS)

1. What would my home look like? What materials would I use to build it?	2. How would I get from one place to another?
3. What kind of clothing would I wear?	4. What work would my father do to earn a living?
5. What kinds of food would I eat?	6. What dangers would there be for my family?

CHOOSING A TOPIC

Perhaps one of the most important aspects of research is the selection of a topic. "The location and definition of the specific difficulty." There are many competing interests, and one must decide carefully which he will pursue. Considerable time and effort are frequently required to resolve research questions, and an interest in the topic is beneficial, perhaps essential. A number of factors besides interest enter into choosing a research topic. The amount and variety of information available to the researcher; the usefulness of the information to the researcher and to society generally; and the relevancy of the topic must be considered before a definite choice is made. Once a person chooses a broad topic, he will have to refine and perhaps redirect his choice a number of times as he delves deeper into information resources.

Because choosing among competing stimuli is a real part of a research effort, an opportunity is being deliberately set forth for such choice in the two vignettes that follow. The first grade seems a good place to begin emphasizing process with (1) choice of topic, (2) alternating input, analysis of input, expressive output, (3) and sharing as the processes stressed. This is continued with more emphasis on independent decisions about output and sharing at the intermediate grade level.

CHILD'S CHOICE

In the first grade the "child's choice" was designed by Dr. John to develop the idea that children would be on their own to discover facts dealing with a topic. Through media the children could study topics that interest them and tell about what they learned.

Some materials were placed around the rooms involving film viewers and films, pictures, books, realia kits, tapes, etc. The children looked at everything over a period of several days and then chose what they wished to learn more about. They then were given more materials and spent several days going over these materials. At the end of this time, they shared what they had learned with the rest of the class.

The children became boisterous and so excited that they failed to obtain very much information from the experience. The procedure requires direction and purpose. Also the children should be trained in handling film viewers and recorders in advance. Two adults assisted the teacher during these experiments. It would also seem unwise to allow first grade children the

independent use of the films. With instruction, we found that the children could operate the record player, filmstrip viewers, overhead and even tape recorder but the film projector is too difficult even when set up in advance.

The objective of this sequence of lessons was really to expose children to research techniques. Choosing a topic, developing some knowledge of the topic and sharing it with other children. While the information level was not very high, the children did seem able to handle the materials and the process. At this time we were interested in providing the children a choice of topics and materials than we were in the accumulation of information.

By Lydia Verrill

COUNTRIES IN A BOX

The fourth grade teachers devised this unit entitled "Countries in a Box" near the end of the school year out of necessity and desperation. None of the countries of the Middle Latitudes had been studied and there were only a few weeks left. How could the children be best exposed to the variety of life in the Middle Latitudes as compared with life in the High and Low Latitudes? Why not give the children an opportunity for self-selection and self-determination. This would aid us in evaluating our success this year in helping the children become self-sufficient in questioning, locating information, compiling data and reporting. So an initial media immersion was planned. With the help of the library staff, a variety of media was collected dealing with several middle latitude countries. The children were taken into a dark room in which the media had been set up. The media were turned on one at a time until a number of films, filmstrips, records and tapes were going all at once in the "media bombardment." (The upper walls were used as screens.) This continued for ten minutes and was gradually diminished. Pupils were then asked, "What did you see?" It was interesting to note that most students had focused on a particular segment that stirred their curiosity. The pupils in each fourth grade then had an opportunity to investigate the contents of boxes that contained research materials on a certain country. They moved from room to room during a period of several days, after the teachers had carefully prepared a schedule. We wished to expose the students to several countries, and then allow the children to choose the country that interested them most for an indepth study.

Each teacher then became responsible for a country (if need be, a teacher could set up boxes for two countries)--setting up a box of materials (books, pictures filmstrips, tapes, realia, records), having the necessary audio-visual machines available, and familiarizing herself with the content of the country.

To help the children be somewhat organized in their study, each child prepared a research folder (large envelopes or construction paper stapled in envelope fashion) to hold (l) research diaries (small notebook or paper stapled together on which they would record their daily progress--what they had done that day and hoped to do the next day), (2) note cards (a question or topic on each card), (3) atlas, (4) dittoed world locating their country, etc.

There were several research sessions, children going to the room with "their country in the box," with the teacher guiding and directing as necessary. (Some of these research sessions were directed toward a single purpose—land, customs, products, when it was necessary.) There were several sharing sessions when the children shared with their homeroom class some of the ideas they had gained.

The culminating activities were booklets in which the children had transposed their research into paragraphs, pictures, stories, and maps. In addition, miniature floats depicting sights and symbols of the country had been prepared by some small groups. The students proposed an international banquet with foods and costumes (menu-planning could be done, although we elicited the help of mothers to cook for us; simple costumes could be an art activity). Skits with songs and pantomime were prepared to finalize the sections dealing with clothing and goods. This provided for cross-fertilization of ideas—(no one group studied food and clothing—each group studied it as an aspect of his Middle Latitude area) since each subgroup had dealt with this topic, and now must collect ideas and share to produce a banquet.

"Countries in a Box" was a unit that was designed to emphasize the student's choice. When the teachers involved participated in the "media bombardment" they were dubious about the possible success of the ensuing unit. The barrage of media seemed somewhat confusing to the adults. However, upon return to the classroom and a discussion of the intake session, the teachers discovered that the children had enjoyed the experience. The students had cast about for a short time enjoying the pictures and sounds dealing with a range of ideas and countries that were being showered about them, and then, had focused on the media that appealed to them most. This one they had watched for the greater part of the exposure time, and the children came out with surprisingly clear ideas about the kind of topic they wished to pursue. The children said that the other films and filmstrips being shown did not bother them when they chose to concentrate on one. The opportunity to choose from so many countries appealed to them greatly.

DEVELOPING RESEARCH

Collecting data and organizing the information collected are the major emphases of the research development stage. It is possible to go about this in a number of ways. One can observe a collection of media dealing with a broadly defined topic, and then write down a series of questions about that topic. Free association of brainstorming with several other people may be helpful at this point. These questions can be changed to statement or phrases and then organized under similar heading. For example:

1. What do the people's homes look like?
   becomes
   a. Appearance of homes

2. What are the homes made of?
   becomes
   a. Materials for homes

A great deal of information is then collected by way of reading, viewing films, filmstrips, listening to tapes and records about this broad topic and finally organized into a sequence of emphases. The Multi Media Network is an example of this.

Michener (*Social Education*, November 1970) says that he simply reads dozens of different resources and soaks up the flavor of the area. He also requires some considerable direct experience in an area before writing about it with authority. We must be cautious that in our zeal for completing research, we do not make the task appear short term or superficial. Time and effort are required to produce any reliable, useful data, and the students should recognize this fact. They ought to know that research has many faces, and many levels of sophistication and complexity. One very real way to aid the student in developing research is to broaden the child's experimental base.

A third way of developing research ideas is to set down specific "objective outcomes" one seeks. Then, collect data or information that leads directly to produce these desired goals. Such a technique may narrow the research ideas and produce rapid results, but may limit the vision to such an extent that many interesting side issues may never come to light.

There are other ways besides those described above, but in connection with any process an account of progress such as the Research Diary seems useful. The lessons that follow provide examples of students using media of many kinds in a project called "18

Projects." Students kept an account of progress with a Research Diary and finally, students produced units that were developed by using the clearly defined objective outcomes. All three procedures are examples of the "developing research" stage. A junior high teacher describes his unique way of studying Canada next.

"18 Projects"

In this experiment I gathered several types of media that related to the topic we were beginning to study, which was an introduction and geographic background to Canada. Some of the media sources used were books, filmstrips, records, booklets and ditto sheets. I studied each resource and made up an assignment which covered the content of each, and developed a skill sheet for each assignment. Each skill sheet was some form of expressive output, varying from standard quizzes to art work and creative writing.

A dittoed assignment sheet was provided for each student. This sheet listed the 18 different projects and under each project were listed materials needed, directions, skill sheets (some samples are included), and on some projects limits were suggested. For example, Project 8 listed a filmstrip, with instructions to view the entire filmstrip (and perhaps take notes on it to study from) and do skill sheet No. 8. Suggested viewing limit: five people at a time.

The length of time we would be working on this was discussed and that each student should do as many of the projects as they could in the time given. Each child was free to choose a project that he wanted to work on. Once he had the media resource he could spend as much time studying it as he felt was necessary. When he felt ready to do a skill sheet he would come to me and get the sheet from my file. When finished, the skill sheet was turned in to be corrected. If the child did well he would be free to go on to a new project. If he could not respond to a large number of questions on the skill sheet, he would have to restudy the material and redo the skill sheet. (I found that there were very few "failures.")

Each child was required to keep a research diary while he worked on this project. The diary was a record of what he did each day. The majority of the students worked very well independently, there were only a few who needed a "push." During the project I had several conferences with each child where we discussed what he was doing and whether or not he was learning as much as he could or should.

By Jim Abbott

Following is the letter sent to the class by teacher Abbott plus the listing of the 18 study tasks from which learners would select their activities:

Dear Students,

For the next two weeks you will be working on a multi-media decision tree. In simple terms this means you will have a free choice of assignments to work on for two weeks, all related to Canada. (Major topics are land and climate, history and government.)

This is a complicated assignment so please be sure that you fully understand it before you begin to work.

On the following pages you will find 18 assignments. You are free to work on any one of them provided you meet certain requirements.

Requirement No. I. Before you can do any assignment involving A.V. materials (4, 6, 8, 9, 12, 18) you must complete a project which is of a reading nature.

12, 18) you must complete a project which is of a reading nature.

Requirement No. 2. A reading project must be completed between any two A.V. projects.

Requirement No. 3. You must sign up for all A.V. projects.

Requirement No. 4. You must keep an up-to-date research record of what you do each day. This should be done in the last 5 minutes of the class.

Requirement No. 5. You must pass all skill sheets. No notes or books can be used. All failures are to be repeated.

HOW TO DO A PROJECT

Get the materials needed.

Study as long as you feel is necessary.

Put away your books and notes.

Get a skill sheet from my file cabinet.

Complete the skill sheet and pass it to me. It will be corrected as soon as possible.

Good luck,

Mr. Abbott

18 Projects
Descriptions

Project I
Materia:: Book: *You and the Americans*
Directions: Read and study pages 99-118
Skill sheet: No. I

Project 2
Material: Book: *Canada and Her Northern Neighbors*
Directions: Read and study pages 48-53
Skill sheet: No. 2

Project 3
Material: Book: *The Story of Canada*
Directions: Read and study pages 22-37
Skill sheet: No. 3

Project 4
Material: Record: "The Story of the Klondike"
Directions: Listen to band one on side II of the record, you may want to listen to this twice.
Skill sheet: No. 4
LIMIT: 5 people

Project 5
Material: Book: *Canada* by Theo L. and Sarah Jane Hills
Directions: Read and study pages 9-28
Skill sheet: No. 5

Project 6
Material: Filmstrip: FS465, "Historic Background"
Directions: View all of this filmstrip, you may want to take some notes to study from
Skill sheet: No. 6
LIMIT: 5 people

Project 7
Material: Book: *Exploring American Neighbors*
Directions: Read and study pages 274-280
Skill sheet: No. 7

Project 8
Material: Filmstrip: FS466, "Geographic Background"
Directions: View all of this filmstrip, you may want to take notes to study from
Skill sheet: No. 8
LIMIT: 5 people

Project 9
Material: Filmstrip: FS479, "Canada's Government"
Directions: View all of this filmstrip, you may want to take notes to study from
Skill sheet: No. 9
LIMIT: 5 people

Project 10
Material: Book: *Beyond our Borders*
Directions: Read and study pages 128-131.
Skill sheet: No. I0.

Project 11
Material: Ditto sheet: "Crossword Puzzle"
Directions: Fill in as many parts of the puzzle as you can. You may use *Exploring American Neighbors* to help find the answers.

Project 12
Material: Record: "Canada's Story in Song"
Directions: Listen to Side IV, Bands 4 and 5. You may want to listen to these songs two times.
Skill sheet: No. I2.

Project 13
Material: Book: *Living as American Neighbors*
Directions: Read and study pages 79-85.
Skill sheet: No. 13.

Project 14
Material: Book: *Neighbors in the United States and Canada.*
Directions: Read and study pages 255-258.
Skill sheet: No. 14.

Project 15
Material: Ditto sheet: "Alphabet Game"
Directions: Find a word that fills but the alphabet letters. Words can be found in *Exploring American Neighbors.*

Project 16
Material: Book: *Exploring American Neighbors.*
Directions: Read and study pages 282-286
Skill sheet: No. 16

Project 17
Material: Booklet: *Facts on Canada* or *Canada Fact Sheets.*
Directions: Read and study pages 14-15 (Government).
Skill sheet: No. 17.

Project 18
Material: Filmstrip: FS483, "Law and Order."
Directions: View and study all of this filmstrip. You may want to take notes to study from.

THREE SAMPLE WORKSHEETS FOR "18 PROJECTS"

Skill Sheet No. 8

1. What inland bodies of water do we share with Canada? _____

   _____

2. What is the largest natural region in Canada? _____

3. What is the "Main Street of Canada?" _____

4. What made it possible for ocean ships to enter the Great Lakes? _____

5. What two climate zones cover part of Canada? _____

   _____

6. Why is the Laurentian Plateau valuable? _____

   _____

7. Where is oil found? _____

   _____

8. How would you describe western Canada? _____

   _____

9. What type of fish is found off the Gaspé Peninsula? _____

   _____

10. What created the passes in the mountains which are used for highways now? _____

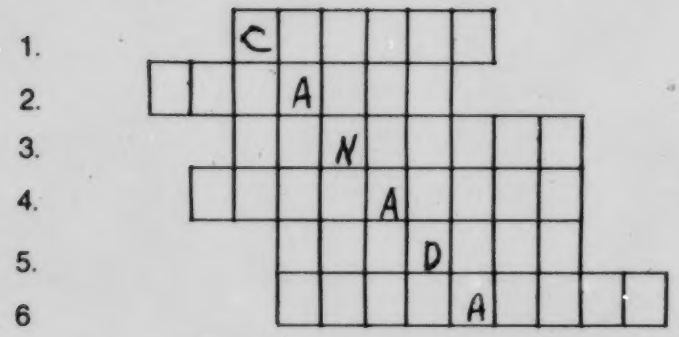
    _____

Skill Sheet No. 4

1. Write a short story about a man living in Dawson City during the gold rush.

2. Write a short story about a man living in Dawson City now.

Skill Sheet No. 11



Across

1. An early French explorer in Eastern Canada.
2. One of the most populated Provinces.
3. The largest city in Canada.
4. Where grain awaiting shipment is stored.
5. The Great Lakes and the St. Lawrence River form this.
6. A large wheat growing province in the western part of Canada.

RESEARCH DIARY

The vignette that follows describes the use of a diary by a creative suburban teacher as a part of teaching record-keeping practices. The variety of learnings associated with the diary project are many and the use of a diary is not limited to just the elementary classroom. A sample page of a student's diary is also presented by teacher Dorothy Shea.

Each child did a research diary. He chose something about "moving West" that interested him from a list of suggested topics, such as: "The Buffalo Herds, How the Indians and White Men Used Them," "The Santa Fe Trail," "Homes in the Prairies," "The Trails of the Mormons," etc. If a child came up with an idea that he wanted that was not on the list, he was allowed to choose it. Each child then looked up whatever information was available in the library or homeroom. He was free to use filmstrips, records, tapes, and various types of books. Each day he wrote down the date and the name of whatever the resource he was using, and a few notes about whatever it was he found.

Many times the children would find that the resource material that they were using did not pertain to what they were looking up, but this is exactly what I hoped would happen—that they would find that often we go off on various detours and down blind alleys when we are doing research, but then we come back and hopefully find the material we are looking for. At the end of a reasonable amount of time, each child decided on a project to do from the information he had found. Soem children wrote stories, others wrote plays (I had hoped someone would write a poem, but this did not come about), some wrote factual accounts, but each one was free to write exactly the type of thing he wanted from the material he had found. This project was then turned in along with his research notes.

The technique was then employed by people at several grade levels. We will include a sample page from a child who was keeping a diary of his work on Holland.

By Dorothy Shea

RESEARCH PAGE

SAMPLE PAGE

Date: May 3

Today I looked at a
filmstrip on customs of
Holland. I read the
part of Peter and the
Dike. I still don't
know nothing about why
they wear wooden shoes.
I will look it up
tomorrow.

STUDENT DEVELOPED UNITS

One way of emphasizing the process for developing ideas is to provide the opportunity for the student himself to prepare the material as though he were going to teach this material to other students. The vignette that follows describes the use of this technique and also offers samples of student objectives and activities. These examples are not being provided as perfect exemplars. Quite the contrary, they are provided "in the raw," so that you can see the strengths and problems that remain.

Several major problems are evident. For one thing there is no dittoed suggestion for the evaluation of the activities or learnings—therefore, there is no way of determining whether or not the objectives have been attained. The evaluations were carried out separately, as you can see, and a tie-in to objectives was suggested by the teacher. A group participation critique was also carried out, and this helps point out the importance of individual effort and group responsibility.

There is no logical build-up of activities that might help students develop more organized thinking. Also there seems to be a strong emphasis on the classmates learning specifics even while the groups are being deliberately subjected to process. There are other improvements that could be made, no doubt.

All the problems that are mentioned here have correlates in teacher developed units. The three major problem areas are not easily solved, but an awareness of them may help you check your unit ideas more systematically.

The students considered this activity a very difficult one. "It really made you think," one student said. The class as a whole agreed that it was the best assignment they had had all year, and felt they had learned a great deal. Here is the teacher's description of the process used to develop units and some objectives and activities produced by the students.

> The topic of the unit was presented to the entire class. One topic used this year was "Westward Expansion." After a general discussion of the main topic it was subdivided as follows:
>
> The Louisiana Purchase
> The Mexican Cession
> The Gold Rush
> Trails (Santa Fe, Oregon, and Mormon)
>
> The students chose the topic they wanted to work with, thus four groups were formed. Each group chose a chairman. The chairman was responsible for seeing that each group completed its task. The chairman also met daily with the teacher to report the progress of his group and to receive any instructions the teacher might want to give.
>
> Each group decided what they felt their classmates should learn about their topic, thus objectives were established. Keeping these objectives in mind they preceded to research their topic. Each group developed a bibliography of the sources they used. A list of the activities and presentations was drawn up by each group. They then decided which of the activities to use in presenting their material. These presentations were made to the entire class using various types of media.

After all the topics were presented each group made test questions over the material they presented to the class. They were cautioned to keep their objectives in mind. A composite test was made over the unit. Each chairman was responsible for correcting and grading their group's part of the test. Halfway through the work period (four weeks) and at the end of the period each student made out a self-evaluation sheet. The chairman of the group also evaluated each member of his group. The group in turn evaluated the chairman.

By Margaret Varney

LOUISIANA PURCHASE

LEWIS AND CLARK EXPEDITION

OBJECTIVES

a. To have them learn from whom the Louisiana Territory was obtained and under what conditions it was bought.

b. To have them learn the main figures involved during and after the Louisiana Purchase.

c. To have them learn the extent, cost and value of the Louisiana Territory.

d. To have them learn the feelings of the "common" people.

e. To give them an idea of the early lives of Merriwether Lewis and William Clark.

f. To have them learn why Lewis and Clark were chosen to lead the expedition into the new territory.

g. To have them learn the route that Lewis and Clark took and the amount of time it took them.

h. To have them learn the hardships encountered by Lewis and Clark and what was discovered in this new territory.

i. To have them learn the feelings of the Americans on the outcome of this expedition.

j. To have them learn the progress of settling the Louisiana Territory.

ACTIVITIES AND PRESENTATIONS

Tape a conversation between James Monroe, Robert Livingston and the French representative discussing the purchase of the Louisiana Territory.

Make a map or transparency showing the extent of the Louisiana Territory and the course of Lewis and Clark.

A mural showing the dangers encountered by Lewis and Clark.

Have a town crier tell of Lewis and Clark's homecoming.

Have a television show telling of Lewis and Clark coming home and what happened.

A classroom scene showing class discussion on Lewis and Cark and the Louisiana Purchase.

A skit showing Napoleon and Lewis and Clark as old men shipwrecked on an island telling of their lives.

Have a skit showing different people in different places and their reaction to the news of the Louisiana Purchase.

An angel scene showing Lewis and Clark and Napoleon in Heaven.

One of Clark's descendants looking through his diary.

Make a map showing the natural resources of the Louisiana Territory.

A puppet showing Jefferson and others talking about the Louisiana Purchase.

A discussion of Lewis and Clark's early life.

A skit showing Jefferson reliving the moment when Monroe informed him of his business deal with France in a dream.

ACTIVITIES FOR GOLD RUSH

Have students construct murals of:

a. gold mines and gold miners
b. people going west in their wagon train and the ways of transportation at that time
c. campsites, typical equipment

Have students present maps of:

a. where mines and gold deposits were
b. trails leading to goldmines

Have students present skits of:

a. how the gold rush affected the Indians
b. how the gold rush affected the white people
c. everyday life

Have students make pictures of:

a. typical equipment used during the gold rush era

Have students prepare transparencies of:

a. the main strikes
b. ways of getting to the gold fields

Have students construct dioramas of:

a. wagon trains
b. mines and the campsites of the miners
c. different ways that the people came—by land, rivers, and by sea

Have students construct models of:

a. Sutter's Fort (where the sawmill was situated when gold was found

Have students report on fiction books:

a. books during 1835-1860 (or so) telling before the gold rush and after

CONCLUDING RESEARCH

There are several ways of completing the research task, but the main objectives involved in the completion of the research effort are (1) to provide the information in a form that is shareable and understandable, and (2) to distill an essence from the multiplicity of facts that you, the researcher, can recall and reuse in other situations. Tables, charts, statistics, general statements are all used to meet both these criteria. These means provide a broad base in communication and can readily be shared by a large group of people.

In completing a piece of basic research one frequently discovers new interests and possibilities for research. The ideas the research has stimulated may be as useful and provocative as the completed research; therefore, they should be discussed briefly. The reader may be motivated to carry out research on suggested areas or the suggestions made may bring to the foreground other related ideas which the reader may wish to investigate.

The vignette that follows presents one of the possibilities for completing a research effort.

GENERALIZING PROCESS

In researching an idea the amount and variety of content is sometimes overwhelming. Because of this fact, students need to collect information, develop certain ideas and generalize about a topic. It is difficult to teach children to generalize but not to over-generalize. It may take some time and practice for the student to be able to develop a good general statement. In many classrooms some attempt is made to encourage the students to make generalizations and practice is provided for. The teacher may say, "Who can tell me in one sentence what we have been talking about?" Often a few students finalize or summarize the ideas for the "silent majority." In an attempt to provide for wider participation and provide practice for all students, Donna LaPierre developed the process that follows. The sequence was completed in one 50-minute class period, but might profitably be divided into two or three lessons.

The process shown here was used in a research design. Eight classrooms were involved, some of which used the experimental generalizing technique—others served as active controls, using the technique suggested by Taba et al. (1971) (a general, total class summary) and still others served as passive controls. The complete report of this research appears in the *Journal of Education,* April, 1970. The results of the research were spotty and

mixed due to several factors. For one thing, the process is a finalizing one and can really only be used after an extended research emphasis. Thus, utilizing this particular technique three times required a five-month school period of Social Studies classes. The time factor would tend to blur the process effects. In addition to this, teachers within and between schools talk to each other and long to try a new technique when they hear of one. This muddies the results considerably.

My lesson was a culminating activity at the end of the unit on Antarctica, with the children making generalizations after they studied the unit. I began the lesson by using the opaque projector and with several pictures that I had collected, reviewed some of the basic areas that the children had researched. The pictures were shown for just a brief period of time and I made no instructional comment with any one of the pictures. The children, however, did make random comments such as, "Oh, I remember that one," or "I've seen something like that before," and I responded to some of the comments with "I thought you might," etc. When this brief review was finished, I referred the children to chalkboard topics which I had previously written down, such as homes, transportation, etc. I asked them to think about these headings and decide which was the very easiest to talk about: "Raise your hand when you can make a full statement about it." The children raised their hands and a number of responses were forthcoming. All the children seemed to enjoy choosing the easiest one. I said, "Did someone else pick the same one?" A number of responses were encouraged for a given category. Then I asked if someone else had chosen a different heading as the easiest. We reviewed three or four categories this way. I then changed the instructions, asking the children to look at the board and see if there were headings that they thought were too difficult to say anything about. Several responses were given and mild arguments ensued because some children thought it was possible to say something about all the items and some children felt that some were too difficult. Using this technique, we reviewed the remaining items. The children decided that they should delete "tourist attraction" and "Products to see and products to buy" for Antarctica. They also wanted to add a category called "Research Activities," dealing with the scientific research carried out at the research station in Antarctica. Their suggestions were carried out.

The children discussed different kinds of statements they might make, giving examples, and decided which one they preferred. They felt they wanted one that included a good bit of information. "One that is packed full of information," one child said.

I now called the students' attention to a small pad of paper on the corner of each desk. I had them write one general statement about the first category that was listed on the board and then chose several children to read an example of their statement to be sure they had the idea. Then each child did the remaining category statements—a separate slip of paper being used for each category. It took about 10 to 15 minutes to complete the statements, then statement no. 1 was torn off, held up and collected by one of the students. The same procedure was followed with all the categories.

I divided the class into the small groups. After the chairman for the group was identified, he dealt out the slips of paper like a deck of cards to the team members. Each group considered only one category and a sufficient number of groups was formed to deal with all categories.

Next, each child read the statements he had in his hand silently and placed the best one on top. Then they read their best statement aloud to the small group and the children in the group selected the one best statement from this sample. Considerable chatter and some mild arguments took place in the decision-making step. I told the children that if no statement suited them, they could revise it and suggestions for revision were sought from the groups, such as (a) you might put two statements together, (b) you might write a new one using words from the good one.

When the group completed the task of selecting the best general statement, the captain raised his hand to signify that his group was ready to present their best statement to the class. As he read his group's choice to the class, I wrote the statement on a large chart. Each member of his group made a small sketch or a miniature drawing on a quarter of a shett of manilla drawing paper of their interpretation of the statement, and taped or pasted them unde the general statement on the large chart.

A final effort to collect the statements was made when the captains lined up across the front of the room and I said, "These statements are all about different things, but see if you can tell me which one is the very best of all the statements. Which one tells the most about the topic it is about?" The class listened to the statements as they were read and decided on the one that they liked the best and then told some of the reasons why they liked it.

By Donna LaPierre

The following numbered sequence is the same generalizing process; it is being presented in a different way for the convenience of the teacher.

Materials:

Picture for opaque review
Packets of small stapled papers - (8" x 4" roughly)
1 retrieved chart of butcher paper - divided into categories
Quarter sheets of manilla drawing paper

Procedure:

(I) The teacher may use the opaque projector and with pictures she has collected review some of the basic areas the children have researched. No comment is to be used with the pictures.

(2) The teacher places headings on the board (e.g., homes, transportation) that involve the major areas of research. The technique used in this portion of the lesson is as follows:

(2a) "Look at these headings and decide which is the very easiest one to talk about." "Raise your hand when you can make a nice full sentence about it." "Did someone else pick the same one?" (A number of responses are verbalized about a given category.)

(2b) "Did someone else choose a different heading that you thought was easiest?" (Proceed as in 2a.) Three or four categories are reviewed thus and then the instructions change.

(2c) "Listen carefully to your new instructions. I want you to look at the board and see if there are headings that you think are too difficult to say anything about." Several responses and arguments ensue because some children think it possible to say something about them and the remaining items are reviewed.

(2d) "Are there categories you would like to leave out?" Several pupils respond, "Are there any you feel must be added?" Again several students respond.

(3) The teacher calls the students' attention to a small clipped pad of paper on the corner of each desk. She now has them write one general statement about the first category on the first slip of paper. The children read one or two statements to be sure they have the idea and then the teacher has the children do the remaining category statements each on a separate slip of paper. (This procedure requires about 15 minutes.)

(4) When a large percentage of the class is finished, the teacher calls for statement no. 1 to be torn off and held high. Someone collects all these. The same procedure is followed with all categories.

(5) Now the chairman for the group is quickly identified and he deals out the slips of paper to the team members. (Each group considers only one category and a sufficient number of groups are formed to deal with all categories.)

(6) The teacher tells the child to read the statements he has in his hand and place the best one on top.

(7) Each child in the group now reads the best statement to the group and the group selects the best from this sample. The children are told at this point that if no one statement suits them, they must revise it and suggestions for revision are sought from the group; e.g., (a) you might put two statements together, (b) you might write a new one using words from a good one, etc.

(8) Each group captain reads his group's choice to the class and writes it on a large chart. Each member of the group sketches a miniature (3" x 4") manilla drawing of their interpretation of the statement. These are taped up under the generalization.

(9) A final effort to collect the statements is made. The captains line up across the front of the room and the teacher says, "These statements are all about different things but see if you can tell me which one is the very best of all the statements. Which one tells the most about the topic it is about?" The class decides on the one they like best and tell why they like it.

In connection with this technique you might be interested in seeing some of the qualities of a good general statement proposed by the students. The author has superimposed categories for sorting purposes following the collection of the students' statements, but these are the students' actual comments as the children jotted them down, misspellings and all. The students were given the following stimulus: "If you were given two statements about Antarctica, how would you decide which one is the better statement?" No category suggestions were provided for the students before the listing and each child simply listed several things he would keep in mind.

Here are the children's criteria:

1. Based on Facts (author's category)

   The most factual (student's comment)
   One that tells how cold it is (student's comment)

2. Comparison

   I would think about what Antarctica is like and compare them

3. Relevance

   If it told about Antarctica
   That it sticks to the subject
   Which tells us about the topic

4. Cause/Effect

   The one that explains things better
   Witch one explans the most
   Why it is the way it is

5. Tentative

   The one that says most of the time

6. Avoid Vagueness

   Realistic things
   Which one is the most sensible one

7. Accurate

   Which one sounds truer than the other one
   Which one was true
   True words

8. Broad

   Which one told more about it
   What tells most about it
   The one that has more information

9. Dynamic

   Which sentence is more up-to-date than the other one
   One that makes you curious about things
   See if it has more exciting things in it

10. Good Structure

    Capital letters, periods, commas
    Which one sounds the best
    I would listen to see if you used correct English

By now you may be thinking that all these fourth graders were good spellers and really quite unusual in every way. There were other statements that are somewhat more difficult to categorize. So that you will be able to see a broader range of responses, to provide an opportunity for you to categorize statements yourself, and to provide a laugh or two, the following list is presented:

It should have a poncherwayshin.
It should have a captil litter at the begining.
It should have ecspreshin.
for you to izxplane.
the statement.
closs your t and dot your i.
not to many and's and but's.
by judement.
becomiling femes.
do not be afade.
fi you said something ture.
fi you exprested it right.
fi I like it.

CHAPTER 3
WORKING IN GROUPS

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Working effectively with other people to solve problems is a learned skill. In an increasingly technological society, cooperative effort is more and more needed. Sometimes more than one person is needed to solve a problem because a number of discrete skills are required and a single individual may not have all the skills necessary for the problem solving situation. At other times students may wish to work in small groups just because it is more enjoyable to be with a friend. Here is part of an interview with a sixth grade boy.

Interviewer:	How do you like to work on Social Studies topics?
Student:	Teams or small groups.
	Yeah! I wish teachers did that more often. You don't get to see your friends very much, and if you have trouble with something - all you have to do is ask, and they'll help you; and so, it's more fun.
I:	Have you had some Social Studies teachers you liked better than others.
S:	Yeah - some let you work on projects and others just rattle on. Pairs it's better, too, because it's not so much tension on one person.
I:	What do you want to know about a country?
S:	Sports - animals - customs and what they do to make a living.
I:	Do you want to know about its past, the country's history?
S:	Not really - general might be interesting but not too much stuff like dates and things; can't remember 'em anyway.

This student clearly likes working with others; even when he sought information, it was very people oriented. One teacher described this student as a quiet boy who did not raise his hand much in class discussion. He may not have been a very active participator, but he enjoys interacting in a small group. There may be a number of students like this boy in your classroom. It is important that you organize the curriculum so that students have an opportunity to work in groups sometimes.

FORMING GROUPS IN THE CLASSROOM

Before you begin group work in the classroom, it is important that a group work skills analysis be carried out.

In an initial assessment raise the following questions:

(1) Has the class had previous group work experience?

(2) Do the students have good expressive skills; verbal (following instructions, oral reporting), writing (note taking, report writing)?

(3) Are the students individually self-directive?

You can gather information that will give you directions for beginning group work in your classroom by observing the students carefully on the playground and by looking at their classwork individually before placing them in groups.

For very young children begin with the total class involvement in *planning* a project. Dramatization, construction, sequencing the events in a story or making a bulletin board together will provide a focus for group planning. *Making choices* can be a part of the students' learned social skills. Selecting pictures that best represent a concept like cooperation will require the exercise of choice. The students can suggest picture captions, decide on jobs to be done and choose questions to ask in an interview. These are other examples of making choices as a group to solve a particular problem. The children can also learn to *contribute* to a class project. They can bring in materials, share in making a mural, suggest ideas and resource people. Total class training sessions organized to practice group planning, making choices and contributing to a large scale project will provide the basic for small group behavior that follows.

TIPS FOR THE TEACHER

1. Begin with one small group. Start with one group that works well together. Let them arrange their desks in a small circle and proceed to plan and make choices about their project. It would be a good idea for them to elect a chairman and to carry out their ideas. In this way they will have a full range of group work experience and will have encountered several of the problems in working together that will crop up again and again.

2. Use the "seed" group as trainers for other groups. Once the initial group has completed a project, they can serve effectively as the one person in a new group who has some experience.

3.Set some well-defined, accomplishable tasks that provide early reinforcement. If the group is getting the job done, the students will be more satisfied with the group and with their participation in it.

4. Work with each group specifically in turn. This should be done so that the students are aware of your attention and feel comfortable in knowing that your time is theirs. Sit down with them and systematically explore the "state of the project" with each group member.

5. Provide resource materials of several kinds. Media will help the intake of information sessions to be more understandable to all group members. Materials for making media aids for the group report should also be provided.

6. Discuss reporting with the students and develop suggestions for a brief, lively information sharing session.

It is possible to provide for more student involvement in lerning by utilizing a combination of media input and variety in grouping of students. The learning units that follow show the use of media as an integral part of the lesson procedures. Different sizes of groups are shown at different grade or achievement levels.

It is sometimes necessary to provide specific training situations that will help students "learn how to work effectively with others." Here are some suggestions of materials you might use with children to prepare them for group work sessions.

WORKING WITH OTHERS

There are times when it seems better to work in a small group than to work alone. A group can develop a really fine collection of materials and ideas. Usually when students work in small groups *participation* increases. By working together, the *product* may be improved too. You may be able to include more information and consider more sub-topics when you work in a group. Most of us like to work with others and share our ideas at least part of the time.

There are several things that you should remember when you participate in a group that makes the work sessions more enjoyable.

1. Each person should assume a share of the task.

	MAPS	OVERHEAD PROJECTOR MATERIALS	RESEARCH DATA	TIME LINE	BULLETIN BOARD
JOHN	•		•		•
MARY		•	•		
JOE		•	•		
PAT			•	•	•
RALPH	•			•	•

A division of labor for a group presentation might look like the above.

2. Listen to each other's ideas.

   Follow the ball.

3. Try to state your ideas in brief form.

   "Well - ah - it seems to me that - the - ah - what was it he said. Oh yes, that about the temples - well, we could do something like that. What I mean is - maybe we could make one - ah - sort of temple that is."

"Tommy suggested that we make a temple. Perhaps we could make a model of one."

BETTER

4. Decisions should be reached by agreement, not by voting and accepting the majority rule. This means that all people in a group participate in a decision and "iron out" their differences.

"We voted you down, George." POOR
"Why did you want to do it this way, George?" BETTER

CHAIRPERSON

Sometimes when you work in groups, you may want to elect a chairperson. A chairperson can assist the group in several ways. Here are some suggestions for you in case you are chosen as the chairperson and need to know what you can do to help the group. The chairperson can:

1. Initiate (begin) the discussions.
He can state the topic and seek ideas from each member. Example: "Our topic is 'Homes in Chile.' What do we want to know about homes here?'

2. Regulate the flow of comments. Do not allow one person to do all the talking while another remains completely silent. Example: "Tom, you have been very quiet. Would you like to add something?"

3. Restate and/or reflect main ideas so that the group may come to some decisions. Example: "Brenda feels that we need more information about their schools. What do the rest of you think of this?"

4. Maintain the group direction toward a goal. Once the group has made some decisions about the goals it wants to accomplish, then the chairman can keep the goals in mind and drive toward them. Example: "How near finished are the maps tht we need for our presentation?"

5. Evaluate the product with the group on a cooperative basis. Example: "Let's see if the maps are large enough to be seen by the class during our presentation."

If you are elected chairperson, evaluate yourself on these five items. Did you do each of these things well, fairly well, not well enough?

The vignettes that follow use an interdisciplinary approach to content as a basis for the methodology described. Each of them clearly demonstrates the use of media in classroom scenes where the students are working in small groups.

In the description that follows you will see the result of careful planning for research. The teacher, Miss Martin, is a highly organized, competent person who spends extra hours before class to be sure that the class sessions themselves are enjoyable and productive.

GROUP WORK ORGANIZATION

This was a method for organizing groups of three or four youngsters to work on group projects. The students helped choose their own groups originally by making a note for me on the day before the group work started, stating their preferences of people they liked to work with (two choices) and their first two choices of topics from the project. As I worked with those I took into consideration facts I knew about the youngsters—their interests, abilities and reactions to others. Groups differed in size from two to six per group. A few persons worked on a topic alone.

The first day the group chose a leader. Then I had a text and an appropriate source chosen for each group to use as a common overview so that everyone within that group would have some common background. Toward the end of the period they could divide the topic as they wished. From then on, the rest of the day was spent working in the groups. Some of the groups worked in the Annex (multi-media center) using filmstrips, films, tapes, records, and other non-book material. Each group or individual student, perhaps, would at some point need to go to the Annex wih a teacher-prepared study-guide. I found out from disastrous results in the past that you can't send a youngster to the library to work with a filmstrip, letting him find a particular filmstrip on his own that will be helpful with his topic. He'll spend the whole day going through the entire cabinet of filmstrips. If you give him just the filmstrip catalog number, he will immediately sit down and copy every word or caption from the first frame through the last, and this is not extremely beneficial. In working with the Annex people, I have found that, especially with the slow-learning youngsters, you need a few very basic questions. Perhaps, in dealing with a filmstrip on sequence and order, one very simple question could be to list the items used in sequence in the filmstrip. Then the student can list ducks, events in a day, and days of the week, rather than copying every single caption word for word and finding he doesn't really understand what he has written. Some of the other groups, or individuals from groups, worked in the library with book materials under the librarians' guidance. Still other groups worked in the room with the teacher, using books from the classroom library and other non-book materials available in the classroom. In our room there was a little cubbyhole that was used to go in and out of the classroom door, and I discovered that it makes an excellent dark-out place. It could be used with an overhead projector when a piece of light paper was taped on the wall. If the Annex was busy, we also set up our own two outside hall stations with equipment.

This meant that about two-thirds of the students were working with librarians and the staff in the Annex, leaving me with about one-third of the class in the room. This allowed me more time to work with individuals, particularly on the matter of getting away from copying materials out of books. In working with my slower students especially, I needed to give them a great deal of guidance. Getting through even a paragraph of a sixth-grade text was tedious and discouraging for them, as they had to look up almost every word.

So I would ask them leading questions, build on what they already knew, and tell them when the idea that they evolved meant the same as the statement in the book. For example, I asked them what they already knew about sequence, and they answered, "things in order." I asked them if they could find another definition in their book that was similar to their own. In that manner I got them to put down just a few sentences on paper that they understood, whereas if I had the entire group, I would not have been able to spend that much time with them individually because of restlessness among the other students.

Near the end of the period I had the group leaders schedule the use of needed materials for the following day. This included materials in the room, the Annex, and the library. Sometimes there were three or four days in a row when no one wanted the overhead projector, and then several groups would want it at once. If I knew at the end of the day that no one had spoken for the overhead projector, I could suggest that perhaps one of the groups rearrange their schedule to use it the next day, in order to avoid having too many groups wanting to use it at once.

My basic function in the organization was to preview materials on hand and set up study guides for books as well as non-book materials. I also scheduled the equipment and then worked closely with individuals of very small groups on the planning, evaluating, and actual writing of the materials. This was where the library staff was a tremendous help, especially with the slower youngsters.

By Mary Martin

The group work described here was smooth and orderly with each student or group seeming quite sure of their next steps. The learning seemed to be enjoyable, and the data collection, analysis and organization was the student's own responsibility. The teacher served as a guide in the research and her role was that of "resource person" rather than "answer person" but this did not come about by wishful thinking.

GROUPING TECHNIQUE

It is possible to combine informal grouping with a direct requirement for media use. One teacher used the opaque projector to examine pictures of the Amazon with the class. Then two or three children seated near each other were quickly grouped for discussion. A chairman was designated by the simple process of giving one person the paper for recording group responses to questions.

After the chairman was selected and the groups physically in order, each group was given a picture. Within this picture they were supposed to find specific topics that were written on the board. These pictures were a series of homes along the Amazon River, and from these pictures the children were asked to find answers to the following questions: (l) What materials were used in the home? (2) How did they build the homes? (3) Where were the homes located? (4) Were they (a) in the jungle, (b) on the River? Also, what type of clothing did the people wear? (5) Were they doing any special activity? and if so, what was the activity? They had only about five or ten minutes to do this. A certain time limit was established so that they would get involved in the discussion very quickly. When the students completed the discussion questions they presented their picture to the class by

using the opaque projector, and they explained to the class what they saw in the picture. The rest of the class could add comments and their suggestions as the presentations were given. The pictures were numbered from 1 to 11 on the back. Number one was the most primitive and number eleven was most modern or advanced development of the home. The teacher called for the pictures to be in this order. The students noticed that some of the groups had the same picture as another group, and this was for the class to see that two different groups could come up with different ideas having studied the same pictures. It worked very well, and the children enjoyed using the equipment themselves. The chairman actually read or told the things about the picture, but the other children had a chance to participate, too. They projected the picture on the opaque projector, and one would stand up and point to objects as one was talking about them.

This was a class of average achievers. The students each had a clearly identified task. Each child was expected to participate productively, and the task was organized in such a way as to make it possible for them to do so. The sequencing of pictures allowed them to develop some rather sophisticated ideas in an almost effortless way. Here, again, the teacher had done her homework; and the session was most enjoyable for children and teacher alike.

The description that follows is given by the seventh grade teacher who helped plan, organize and carry out the cross grading experiment. The teacher points out clearly that prior planning is essential, and she is an experienced, very able teacher.

CROSS GRADING TECHNIQUE

To develop a successful cross-grading program, the complete cooperation of the principals of schools or teachers involved is a necessity. Teachers must be selected who are extremely interested and willing to exert a little extra effort. First the time must be carefully scheduled so that no conflicts will upset the routine once the program is on its way.

The next step is a meeting, or series of meetings, between the teachers who are involved at which time a country or a problem which is conducive to the program is selected. The amount of time on a given day and the number of days per week is determined and some general overall objectives developed. The number of students is decided upon and the areas of study are selected.

In Brunswick, ten seventh graders were divided into five groups and two seventh graders were assigned to each group. They explored such topics as homes, food, clothing, occupations, and recreation of the Japanese people.

The first grade teacher's job was to supply the background information on the unit and work with her groups when the seventh graders were not there. She also had to observe and assist the young tutors as they worked with her pupils.

The seventh grade teacher had to provide the background information for the study of Japan, assign topics to the tutors who were selected, and guide research activities.

The remainder of the seventh graders had to prepare for their own presentations and also help gather and evaluate information that could be used with the first grade. (This helped to make them feel a part of the experiment.) The older pupils visited the first grade classroom three times a week for approximately one half hour per day, for some eight weeks.

> As a culminating activity the first graders, under the guidance of their young tutors, came to the junior high and presented their information to the seventh grade. The seventh graders, in return, played host to the first graders and presented a program. This program included a flower arrangement contest (with first graders as judges), explanation of holidays (the first grade boy having the most brothers received some kites), a shortened version of the tea ceremony, and finally the dramatization of an original Japanese fairy tale. Favors of paper hats and umbrellas were presented to the first graders by their host and the unit was over.
>
> By Faye Hafford

The program described created great involvement on the part of students, teachers, and even parents. The seventh grade students had to answer direct, concrete questions raised by first graders. No longer could they rely on long passages copied from encyclopaedia material. First graders enjoyed the association with older students and took the tutors very seriously.

Parents had considerable positive feedback from their children and carried the excitement of the idea to other parents, so much so, that the principals of both schools received calls in the spring requesting that "My Johnny be placed in the room that's teaching first graders next year," or that "My Alice be put in the first grade that has the seventh grade tutors." Some research showing the positive benefits of cross-age grouping has been done by Lippitt and Lippitt (see "Cross-Age Helpers," *NEA Journal,* March 1968). Research was completed by Katherine Byrnes (Cross-Age Study in Elementary Science, dissertation, Boston University) to investigate the effectiveness of cross-grade instruction dealing with science process and content at eighth and sixth grade level.

Whether a tight, formal research design has been applied or informal impressions have been collected, the reports of cross-grade interaction are generally favorable. The reports also indicate that extensive planning and more time-input in advance of project implementation are necessry if the effort is to be positive and productive rather than chaotic.

CHAPTER 4
SKILLS IMPROVEMENT VIA MEDIA

CHAPTER 4

SKILLS IMPROVEMENT VIA MEDIA

There are skills that are essential for learning in any content area such as reading, and dictionary use. There are other skills that are very important in one area, but not as crucial in another content emphasis. Map reading and interpretation, use of graphs and the skill needed to understand a time line are especially important in Social Science. Some appreciation of music and its complexity is an important component of the humanities.

It is important that elementary teachers give some consideration to the skills that are needed for students to complete their studies in a particular area. You may need to plan specific helps in skills for students embarking on research tasks. Skills training is most profitably undertaken in conjunction with a content selection rather than as a completely separate entity. Thus an assessment of the skills required to complete a student's chosen task, and an assessment of the student's present skills level seems essential, enabling the teacher to provide assistance.

Programmed learning booklets have been developed that deal with map skills particularly. These are designed to aide the teacher in providing the needed skill at the appropriate time. Such booklets do not provide skills training in conjunction with content, however. Skills can be dealt wih via media quite readily since they are based on orderly sequence of steps. These are ordered steps which can be sequenced in filmstrips for use on an overhead projector or in slide series. The ideas we are dealing with in this book provide for increased emphasis on a skill or a sub-skill, not the teaching of an entire skills area (e.g., map reading). The vignettes deal with creative solutions to persistent instructional problem areas. Media is used more as a stimulant than as a complete instructional tool.

READ-ALONG

The reading level in the Social Studies texts and Science texts is more difficult than the reading level in comparable grade Reading texts. A study was done by Margeret Gillespie (Stanford dissertation, 1966) comparing two leading series Reading texts at fifth grade level with the matching series Social Studies texts. The Social Studies texts had a significantly higher number of concepts, and proper names per running 1,000 words than did the reading texts. Most teachers and educational researchers had suspicioned this for some time, but dealing with the problem in a practical way has been left to the teacher. Media provides some assistance along this line.

Students in the rural areas frequently enjoy using equipment. In the description that follows you see a rural teacher dealing with reading problems in an interesting way.

> My students enjoyed studying about growing things. We learned a game and listened to music (record by Hap Palmer in an album entitled "Learning Basic Skills Through Music," Vol. 1--the song utilized from the LP is "Growing"), as well as completing some other activities. There was one activity that very much interested them—a folk tale—which I read to them initially. They seemed more interested in it than usual and asked for some of it

to be read again. Rather than read part of the story to one child and part of it to another, I typed up the story (it's a rather long one) on ditto and then tape recorded it. In addition, I asked some questions about some sections of the story. Now the students could use head sets and listen to the story whenever they wished, and read along with me or not as they chose. Rarely did I observe a child who just listened. A child would begin by listening and after a few minutes begin to try to find the place on the page. Then he would read along. The children felt quite pleased that they could read some of the story themselves. Some of the children drew crayon sketches on small sheets of manilla paper to interpret the part of the story that they enjoyed most. Others made villages or small stick dolls as they wished.

As a result of this experience, I have taped other reading in Social Studies and the children have read-along sessions frequently. This is helpful in their studies and in giving them extra practice in Reading also. The head-sets are also useful for practice in following instructions on work sheets.

By Phyllis Tyler

INDIVIDUALIZED READING

Individualized reading conveys the impression of each child quietly conferring with the teacher regarding a book he has just completed. A chart will be completed by teacher or child or both to keep an account of the number and variety of books read.

The possibility of using an individual, independent reading session and a collective information sharing session is a useful variation. Questions about a topic are raised prior to the reading, and then, categories are established and information dealing with them recorded on the chalkboard following the reading sessions. The questions established a broad base for hypothetical thinking as the student read his book. The chalkboard categories provide for a collection of some kinds of information.

You may wish to use this technique with a different grade level or with a different topic, but you will enjoy hearing from Mrs. Shea, our movie making teacher, again.

In social studies we talk about individualizing instruction, but find it very difficult to do this. For studying the Revolutionary War, I decided to find out how many books the library had on the subject. I found around fifty books that involved historical fiction, history, biography, anything to do with the Revolutionary War. These I put in the classroom and for an introduction to the Revolutionary War we discussed four questions to be looking for. The questions were: "What made the English and Americans change," "Why did the people fight," "Who were the important people and what where their contributions," and "What was the importance of the Colonies winning the war"? Each child chose whatever book appealed to him and started to read it in class. Some of them decided they didn't like the book, so I let them read it for awhile, and if they didn't like it, they were allowed to choose another book. I gave them time to read their books in class a second day, but after that they had to finish it on their own time. I gave them about a week to do this.

After they finished reading their books, we came together as a group and I put three categories on the board: Causes, People, and Events. Each child was supposed to contribute what he had found from his book. The only Cause they came up with was taxation, which is one of the most frequently mentioned in most books on the Revolutionary War. They contributed many names of important people, but were often vague about the peron's specific role in the war. Often however, they could relate at least an isolated incident concerning the person. We covered Events last. Some events were discussed in connection with People, while others were brought out without reference to the people who took part in them. In this manner, each child was able to give according to his own ability and efforts. No specific evaluation was made of any one child's effort in reading. A suggested evaluation was that each child look at the questions we were trying to answer and decide whether he had answered them well.

By Dorothy Shea

DICTIONARY SKILLS

Skill is needed in using a dictionary for definition and for spelling in any research task. As most teachers know, dictionary use is formally taught in fourth grade and many students are able to use a dictionary long before grade four. Pictionaries are used in the very earliest grades.

The vignette that follows deals with a sixth grade class, and the teacher is reviewing dictionary use at the same time he is developing some Social Studies concepts. The idea is a good one. Such a combination reinforces a skill that may not have been practiced for some time and introduces a limited number of new ideas simultaneously. The overhead projections served to focus attention, and keep everyone together as the lesson proceeded. Mr. Abbott is an innovative young teacher who works carefully on skills as you can see from his description.

I integrated dictionary skills with a social studies concept lesson for a slow sixth grade Social Studies class. I wanted my low learning level children to understand the concepts of tribalism, colonialism, nationalism and independence in relation to Africa. To do this the lesson was introduced by showing the children a transparency made from the page of a dictionary. Using this transparency we discussed how some definitions are numbered. For example, I used the word "word," which might be entered in the dictionary like this: Word (word) 1.xxxxx; 2.xxxxxx; 3.xxxxxx; etc. We examined several words noting how each word was spelled phonetically and then defined in the dictionary. These words had been run off on a transparency sheet. Each child took out a dictionary and on the overhead presented four words that they appeared in the dictionary. The number of the definition that was most appropriate was given following the word, such as tribal (1), colony (3), etc.

After all the students had found their definitions we all worked together on the overhead to change the word and its definition to its "ism" form. The definitions we finally arrived at were simple and were clearly understood by

the students involved. As we continued our work on the four concepts I tried to extend their understanding by using concrete examples, such as: Some rules in our room are made in the office. Would you call this colonialism? Examples of this kind would stimulate discussion and help clear up any confusion that existed in the children's minds.

One of the interesting ideas discussed dealt with dress codes, and where they originated. The students wanted to know who made them. Who said, "We can't wear our shirtails out?" What form of rule does this represent? Such great interest was created in this that the forms of governing we had chosen to examine took on flesh and blood and were of great interest to them. The problem had been made "relevant."

By the end of the week the students were relating the four concepts to the countries of Africa very well.

By Jim Abbott

NOTE-TAKING

It is possible for the teacher to serve as a model for skills development. The teacher may demonstrate a skill, and then suggest that the student practice it in the same way.

The teacher in the vignette that follows provides such a model. If the student wants to copy the teacher's notes exactly, he may do so; but it is suggested that he use the teacher's notes as a base for comparison that can help him in the more difficult spots.

The teacher suggests that the filmstrip be reviewed carefully with two criteria in mind. The accuracy and usefulness of the content should be considered, and the logic of the content as it is presented should also be assessed. The note-taking process described depends on the adequacy of the media, and it would seem wise to keep these criteria in mind when filmstrips or other media are used.

The purpose of this lesson was to teach the students to take notes from the material in a filmstrip. This technique could be used with a film also. To do this I projected a filmstrip on a screen and at the same time used an overhead projector on the wall beside the screen. This requires either a light colored wall or dual screens.

The procedure was as follows:

1. I assigned a student to run the filmstrip projector. A nod of the head will suffice to tell him to move on. He can either record his own notes or borrow yours following the presentation.

2. I operated the overhead projector and as each frame is viewed, I record appropriate notes. The class takes notes and we compare the note-taking results.

My notes may assist those who have difficulty in determining important points and separating these from examples in a presentation. It also provides a model of note taking and when a verbal discussion of the technique follows, it provides a sample of the decision-making process that is included in the note-taking operation.

Since the youngsters were using my notes as a base for comparison, I felt it was extremely imporant that I prepare for this in advance and preview the filmstrip for its usefulness in connection with (1) the content being studied, and (2) its logic in terms of outline organization and sequence. The filmstrip (film) really serves two purposes: It presents new and interesting content and provides a basis for developing a necessary research skill in outlining. Both these areas can be developed at one time.

By Linda Harriman

MAP WORK

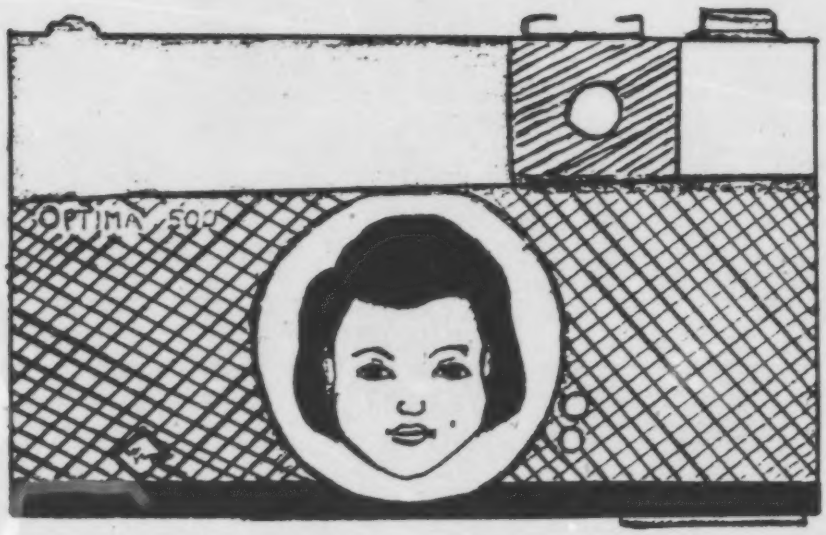
One of the skills essential to the collection of information in Social Studies is map reading and map interpretation. A considerable investment of time is required to become proficient in these skills. Association with a variety of kinds of maps aids the child in developing skill with maps. The lesson presented here does not attempt to teach map skills as such but, rather an alternative in the map reproduction process is demonstrated, which will help the child become familiar with variation in sizes of maps. As you can see, the idea is useful for the students in their presentations as well as for the teacher. Similar media strategies could be used in other content areas.

I found a new way of using the overhead projector. In a sense, I used the overhead as an opaque projector. An opaque projector is frequently used to enlarge maps for posters. However, while teaching a lesson on deserts, I used a transparency showing desert regions on a world map. With the overhead projector, I threw the image on the blackboard and quickly drew a chalk outline of the map on the board from the image projected. Then I had the children look at a small world map in their textbooks and find the desert regions. They could compare their small maps with the large, chalk-drawn map on the blackboard to pinpoint the areas exactly. Then the children found pictures of the various types of deserts found in different regions of the world, and attached them to the appropriate part of the chalk-outlined map on the blackboard. The problem of drawing a large map or finding one of the right size was taken care of in a very simple way. By using the overhead a map can be produced from page size to any size you wish, and the reproduction of a fairly accurate map is only a matter of tracing carefully. Students saw the value of the technique and used it in their class presentations to provide maps that could be seen at a great distance.

By Janet Simmons

CHAPTER 5

DEALING WITH ATTITUDES AND VALUES



CHAPTER 5

DEALING WITH ATTITUDES AND VALUES

Simulation and gaming techniques are being used with increasing frequency in our schools. Such methods motivate students to become involved in the active solution of problems, and in so doing change a sterile, laboratory-like classroom into a tantalizing slice of real life.

"There is no way to remake or cultivate attitudes in one grandiose stroke; but teachers can help students to study them by providing opportunities for actually playing out their implications and effects in classroom situations" (Gordon, Alice Kaplan, 1970, Introduction). The use of role playing in the classroom has long been advocated by educators because it is one technique that allows the student to become involved in negotiations and compromise. These are social skills that seem worth developing, indeed they seem to be sadly neglected skills.

Role playing a problem situation provides the class with a direct, immediate sample of human interaction, and develops a common experiential base for the examination of the interaction process. Together the students enact several solutions to a problem, and then can discuss, "What happened here?" The students can see the impact of their emotions on the problem solutions they have just worked out.

In a post-enactment analysis after the emotion has drained away, the student can look objectively at the solutions. This portion of the role playing process is often omitted; but it is of real value in helping students make more and more intelligent decisions. Examination of the process in an objective fashion is useful in bringing about intelligent decision-making. It requires the use of high level cognitive processes, such as analytical and evaluative thinking.

Generally, then, role playing provides a base for developing several important skills. Social skills such as negotiation, compromise and bargaining are developed. Human interaction process skills are emphasized, and in the analysis of the solutions that are proposed in the interactions high level cognitive processes are called into play.

There are more specific goals that deal more directly with a given role playing session and the direction it will take. If one is interested in developing multiple solutions to a problem, the role playing procedure may be handled in such a way that this is accomplished. If the long-range consequences of a particular decision are sought, the enactments are developed in another way. In graphic form the two techniques would look like Figure 1.

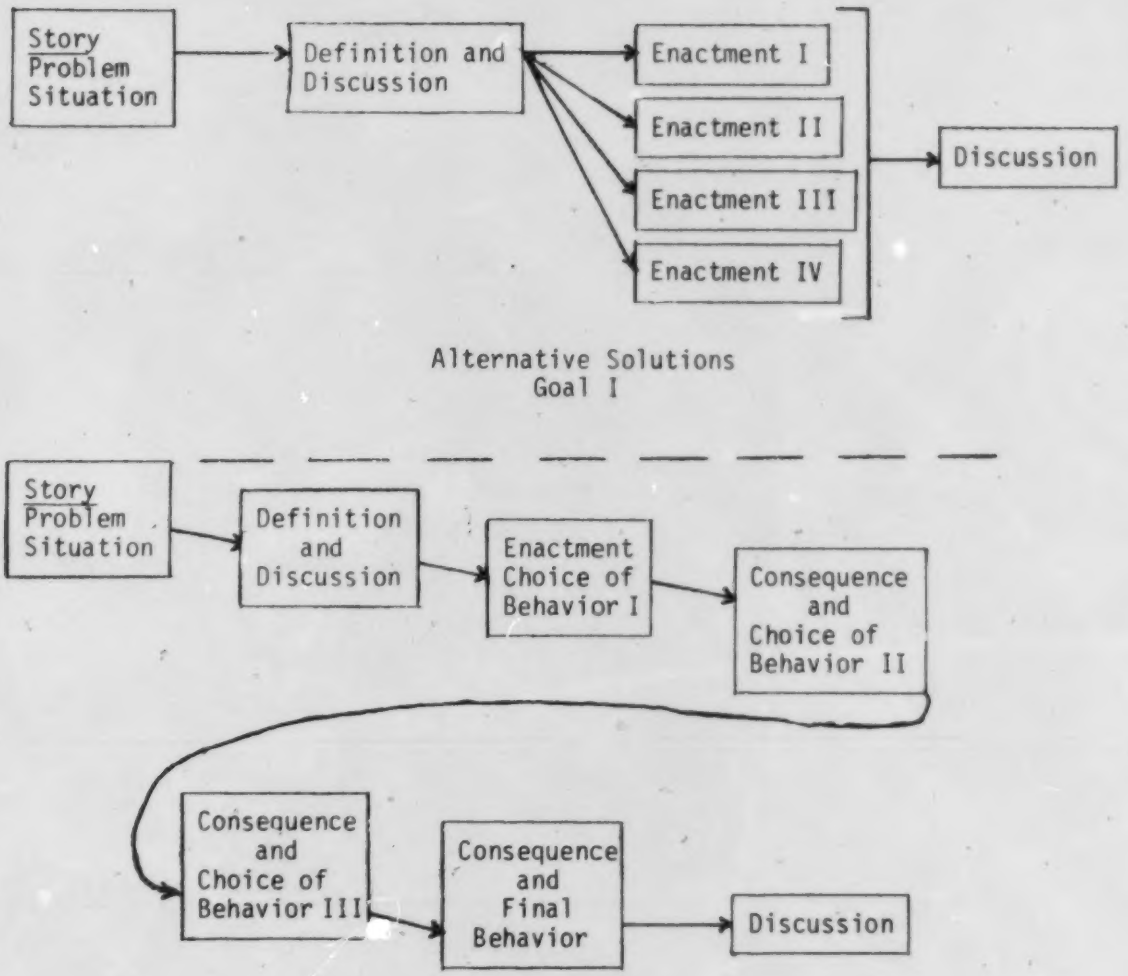


Figure 1

ROLE PLAYING MODEL

If Goal I is carried out, the definition and discussions plus the varied kind of enactment would seem to promote a tolerance of ambiguity and uncertainty. In the real world of the child and of the adult much complexity and uncertainty exist. Many alternatives are open to students in the solutions of problems and an examination of some of the various problem solutions in role-playing situations seems advisable.

If a series of consequences is followed through, as in Goal II, one should assume that the child would become more futuristic in his thinking. Following through on the consequences of one behavior and the resulting consequences of the next choice might help students think in terms of long range effects of a choice. Experimental evidence (John, Martha - 1970) has shown that role-playing does, in fact, help children become more able to predict long range consequences of behavior. More research is needed to determine the effects of the different sequences used in role playing.

A complete description of role-playing is provided for the teacher in *Role Playing for Social Values* by Shaftel and Shaftel. The role-playing methodology is carefully described and the kinds of questions that arise in role-playing sessions are considered. It seems obvious from even the brief discussion given here that the teacher must make several decisions in conducting a role-playing session. While a game or a role-playing situation as posed is essentially value free, many values may be brought to the fore in the solutions that are suggested. In some instances this is one of the purposes of the role-playing session. Because of this, some real skill is necessary for handling complex, value-laden issues.

In the vignettes that follow, several variations of gaming or simulation are presented. The teachers involved in these situations were not persons with years of training and experience in role-playing techniques. They were, however, experienced teachers who were sensitive to children's suggestions and needs. Their skill in dealing with children is evident.

In the sample lessons media were used in a most effective way. It helped make the situations more realistic in some cases, and in others it helped record the interaction for future use.

CHAMBER OF DEPUTIES

In some situations students are asked to assume the role of another individual to produce more identification with the problems of the individual. It may also provoke more intensive exmination of the other individual's life-situation. The students who became deputy representatives of a certain state in Mexico evidenced both of these hoped-for behaviors.

The teacher's description that follows pobably most nearly exemplifies the Goal I role-playing condition. The deputy representatives show the many divergent points of view when considering any one topic.

> Prior to our study of Mexico, paper was distributed and the children were asked to list in order of their preference the areas of study they were most interested in learning about. High on the priority list were children of Mexico, climate, mountains, religion, education, animals, transportation, Indian tribes, government, and economy. (I might add that in-depth studies of the Incas, Mayas, and the Aztec tribes had been thoroughly explored already.)

Having made their interests known, the children were divided into six different groups. The children elected their own chairmen, who assigned the students in their groups the areas for which they were responsible. In presenting their material, the children did extensive research in the school library; they planned and presented their own drawings, used the opaque projectors, and designed their own transparencies. They made tape recordings and a variety of effective media in presenting their reports. Interspersed with presentations of their materials, many of the children spoke of their personal experiences while they and their Navy families were deployed in Mexico. The children contributed souvenirs of Mexico which they exhibited in the school library. (Sixty articles made up this exhibit.) In the classroom the children enjoyed their own pinata.

At the conclusion of our study of Mexico, the children asked permission to debate one of the problems facing Mexico today. After a class discussion concerning these problems, the children selected "education" as the topic for their debate. Having thirty members in the class, the children decided that each child would enact the part of a deputy representative of one of the 29 states in Mexico, with the thirtieth child acting as President. The classroom was renamed "The Chamber of Deputies."

After much discussion, the children decided that the debate should be concerned with some area of Mexico's educational problems. Inasmuch as the present law requires children to attend school until they are fifteen years of age, the group decided one of the deputies representing Mexico City would propose an amendment to the present law, changing the compulsory age for attendance from fifteen to seventeen years of age.

In order to create a semi-realistic environment, each deputy selected a state and printed the name of his state on a placard which he placed on his desk. The children also decided they would use the term "Senor" or "Senorita" when addressing a fellow deputy. Remarks to the chairman would be "Senor Presidente."

The debate began when the deputy from Mexico City asked to be recognized and then introduced his amendment. Highlights of the debate (in my opinion) were arguments advanced which gave evidence of individual research conducted by the children themselves. They pointed up the fact that the present fifteen-year-old law could not be enforced because of lack of schools and teachers. Transportation being a major problem, many of the deputies spoke of building good roads rather than providing additional schools. This statement was refuted by a deputy who stated that it was almost impossible to build roads through towering mountains and deep canyons. One of the deputies spoke at length about Mexico's economy, summarizing by saying that the additional tax burden was unthinkable. One of the representatives mentioned the fact that the children were needed to work the farms and that an education was not needed for that. This was refuted by the statement that educational programs would teach the farmer to use better seeds and better farming methods, which in time would lead to the purchase of farm machinery, thereby releasing the children to pursue their studies longer.

It is impossible to recall all the arguments pro and con that were advanced in the debate. This one aspect is certain, that the children demonstrated a maturity far beyond their chronological ages and gave every evidence of an ability to think creatively on their feet. They also evidenced an emotional involvement in their role as representative of a particular state. The children had worked diligently to learn about the people and the general conditions in their state. Each student tried very hard to remember the kind of area he represented, and took the position he thought such a "real life" person would take.

By Agnes Ford

POPULATION EXPLOSION GAME

Role-playing and role theory were a part of the emphasis and a small sample of role-playing sessions was carried out. The students were then encouraged to make their own applications and the following contribution is one of the ideas a team of teachers produced. The game is described, and a sample of recorder and/or participant impressions for each country represented is included.

It seems clear that most teachers could team together to develop challenging role-playing materials for their students. The range of possibilities is tremendous and is perhaps only limited by the limits of our own imagination.

By James Saltonstall
Bridgene Devlin
Faith Littek
Bonny Schmid-Burleson
Walter Labitsky

Purpose:

The purpose of this lesson is to present the student with the problem of increasing population and how it may affect him. In addition to presenting him with a mere intellectual confrontation, the student will be asked to become involved from a personal, emotional, and creative viewpoint. He should discover that population is not only a problem within itself, but that it also affects many important facets of our lives, such as the concepts of privacy and space, and the more real concerns such as the production and distribution of food and the disposal of waste.

Rules:

The basic class structure follows: (1) The class is divided into groups of about ten students. The division should be arbitrary, but an attempt should be made to maintain the class proportion of males to females. Each group, under the supervision of a recorder, is designated an area or "country" and is given a short description of the country, including perhaps some of the following: politics, religion, economics, traditions, geographical highlights, etc. We found it easier to choose an existing country and to use it as an example. (2) The territorial boundaries are clearly delineated, and the group is told that as time passes, they will experience a proportional increase in the population,

symbolically accomplished by decreasing the land area allotted them. We let 5 minutes be the equivalent of 10 years, and we thus decreased the country's size every 5 minutes. (3) Each group is presented with a specific problem to solve. We asked our groups to decided how to divide a given amount of food among themselves, and how to deal with the limited areas allotted them.

Setting:

The physical set-up of the classroom will vary according to individual taste. We found it desirable to lead our students from their usual room to a second room set up with props. We used a combination of corners and high moveable screens to divide our room into "countries" and found that we could easily decrease the size of these areas by moving the screens or by chalking the floor or using restraining ropes. (See Figure 2.) In addition, we tried to create an atmosphere by using posters, magazine clippings, drawings and music to make the situation seem more realistic and involving.

Basically, we used a team teaching approach, using one teacher in each group to explain the rules, to act as catalyst and to record the activity. If a self-contained classroom setting is used, several student leaders might be selected to serve the teacher function. These teachers described the overall country situation and tried to stimulate both questions and answers from the group. Their primary purpose, however, was to record the happenings and to help the students visualize and imagine the real situation. The students were asked to play the roles of people as dictated by their emotions. They could be politicians one minute and carpenters the next, atomic scientist or fishermen, explorers or peasants. In this way, it was hoped that no matter what suggestion was made, it would have both support and opposition.

Room Setting

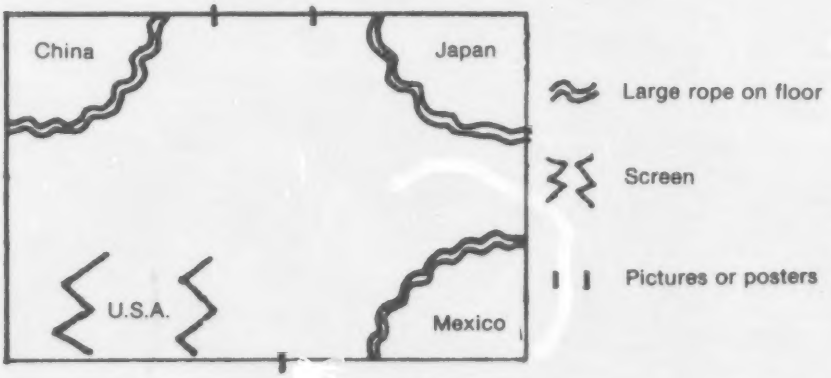


Figure 2

In this lesson we hoped to achieve some rather specific goals, the most important of which follow:

1. To make the students physically feel the pressures of overpopulation.

2. To have the students take a stand on issues, to see how they react to other people's arguments; in short, to interact.

3. To make the students think about the future, foresee some of its problems and begin to think of possible solutions.

Introduction:

The introduction to the lesson is short and does not attempt to describe the goals of the experiement, nor the precise rules. An attempt is made to relate this lesson to the ones that have preceded; it should be used in context and not stuck in a curriculum at random as a form of amusement or pastime. Some statistics on increasing world population can be helpful to dramatize the importance of the problem. A general description of the experiment is then made and the students are given a few ideas to keep in mind, for instance: Think about how you feel, about yourself and about others. Can you do whatever you want? Do other people bother you? How? Why? Such questions may help to make the experience more meaningful to each individual. Finally, the class should be divided into groups, whose recorders will then assume the duties of briefing their own groups on their "country" and of posing the initial problem to be solved.

Follow-Up Questioning:

At the end of classes in which this technique is used, we feel that follow-up questioning will help to reinforce what was experienced. It will also serve as an exercise in verbalizing what one has felt and done. To begin with, one representative from each group should be asked to describe what happened in his group. After each group has finished, there should ensue some open discussion of common feelings, problems or emotions. At this time the discussion leader and/or individual class members should feel free to ask specific questions that may interest them. It may be useful to try to pin down a particular student to make him explain or explore his reactions and his emotions during the experiment. Caution must be exercised in questioning, however, for fear tht individuals think they are being "picked on." The discussion leader should not embarrass the students, but should probe the students, so that they understand themselves and their reactions better and so that others understand that each person thinks and reacts differently. It will be easier to ask the more confident and most involved students for their thoughts first, as they will probably not be embarrassed to reveal them. The less outgoing and less confident students may loosen up as they find their feelings are much the same.

After the questioning is complete, the discussion leader should try to make some general remarks which will bring together the many facets of the experiment, emphasizing some of the common reactions and stressing that the real situation may soon present itself to us. How will we react then?

Class Critique:

Comments made by the class and suggestions for further development:

1. Many people suggested that this type of program should be used over a period of several weeks, so that students would settle down and become "citizens of their own countries." In such a case, they would be made to feel the effects of their own decisions, and they would also be more affected by the limited space. Generally, it was felt that, if extended, this program would have more impact because it would be more real and less of a game.

2. It was felt that this concept could also be applied to other areas of current concern, such as pollution, privacy, morals, space concept, and the importance of land.

CHINA

Recorder's Impressions:

Those students representing Chinese stood in a corner—the open end of which was closed off by a rope on the floor; the area was decreased by moving the rope boundary toward the group forcing them further into the corner. Information on the population of China was written on the blackboard, for it was felt that the students would better comprehend the immense number of people involved and consequently the urgency of the problem by seeing the figures rather than by merely hearing them recited. Present population of China and the growth rate were given. In order to provide the group with a meaningful comparison, it was stressed that in the next ten years, China would have an additional 200,000,000 people—an increase equal to the present population of the United States.

A brief summary of the geographic features of China with regard to population density was then presented. Arable land is in the eastern portion of the country, and here population concentration is the highest. The western section of China is mountainous and the land is non-arable. Here population is sparse.

The group was also told that Confucian tradition encouraged large families, and that until very recently, the regime's stance was in line with the Marxist view that there can never be overpopulation. According to this belief,there can only be exploitation, which in turn leads to lack of food and clothing, poor living conditions, and job scarcity. When the means of production are in the hands of the workers, industry can be effectively expanded to accommodate the rising numbers of people, providing jobs for

everyone, increasing food supplies, and in general alleviating the problems normally attributed to overpopulation. Finally, the group was told that China has had to import wheat every year in order to assure its people a minimum level of subsistence. The boundary was then tightened and the group was asked how it would solve the problem of feeding its people with the present rate of growth and food shortage.

One member of the group suggested that the problem of overpopulation could be solved by building upward. However, another student promptly seized upon the alternative of territorial expansion as the solution to bother overcrowding and food shortage. Additional information as to the small population on the large expanse of Soviet territory north of the Usuri River was given the group and they decided to attack the USSR. The prospect of war losses was rejected, the group supporting the view that a few million people could be offered in exchange for more territory. From this point on, the group tended to dismiss "real" obstacles (death, the possibiity of a world confict, existing conditions) and tended to justify whatever decision was made—no matter how fanciful—through arbitrary manipulation of the situation.

A group across the room was "attacked." The Chinese were "repelled," returned to their own land only to find another group had settled there in their absence. One of these students had adopted the role of an atomic scientist and was offering to build underwater cities to house the overflow of people. This idea was enthusiastically accepted and a number of chalk circles representing these cities were drawn outside the rope boundary and quickly occupied. Then, it was promptly decided that not only was there enough room and food (algae) for the Chinese—there was an overabundance of both and the idea to "turn peaceful" and invite others to emigrate to China was forwarded and immediately accepted. In effect, the problem was not only solved for the Chinese, but an advantage was gained enabling the population of China to extend aid to others.

The suggestions were imaginative, if unrealistic. The group exhibited an ability to jump from one solution to another and to define the situation as it had to be in order that the decision be carried out. The members did not adopt opposing roles (farmer, government official) but rather acted in unison, seizing a suggestion, elaborating it, and fantasizing further until a new idea suddenly occurred. The group rejected any thought of hardship, unfavorable consequences. The horrors of war were cheerfully accepted as necessary to reach desired ends. The attitude toward the recorder was defensive. When an existing obstacle was brought to the attention of the group, they rejected it unanimously and redefined the conditions to suit their needs. Two or three members seemed to lead the group, making the suggestions and replying to the recorder. The rest followed along with their plans.

Participants' Impressions

During the class I was assigned to the group which eventually wound up in China.

After a briefing regarding our poulation level, the current population explosion, lack of land space, etc., we were asked what we were going to do.

Various roles were assumed by the members of the group. In order to exert maximum influence over the group, I "appointed" myself as a member of the Presidium.

A short, heated discussion followed, during which our group director continually applied pressure by shrinking our boundaries (this gave impetus to a rapid solution to the problem). We quickly arrived at the point that China only had so much arable, cultivatable land; living space was a problem but not so serious; however, we did require space in which to expand primarily, to grow food.

Since we had a surplus of one asset (bodies) we decided to attack our neighbor (Russia). We had adjoining borders with them, they had land space which could be put to good use by us to grow food. We hoped by this that we would, in addition to gaining space, gain outside support from other nations either in the form of weapons or more important, foodstuffs.

It must be pointed out that even though there was a population explosion, we made no real effort to reduce the size of the families (they are usually large) since this was the center of life and the way of life for our citizens. We would, however, begin an education course and hope that they would voluntarily reduce the size of their families, but no force would be used in this since we needed the full support of all the citizens of the land.

After a short deliberation, we were led by our Political Commissar on the attack; unfortunately she led us astray and we attacked Mexico instead of Russia. After having overrun the country and seeing that they were in as bad or worse shape than we, and only losing 200 thousand in the misadventure, we returned to our glorious homeland to find that a colony (more than one) of capitalistic invaders were now using our precious space. We quickly annihilated them, again only losing a hundred thousand or so.

Once the mad-dog foreigners were driven from our soil, we concentrated our efforts on making do with what we had. We explored and went "underwater," built underwater cities, made maximum use of sea products and resources, brought in specialists from sympathetic countries to aid us in our fight for survival.

At about this point the exercise was called off.

MEXICO

Recorder's Impressions:

Members of this group were asked to consider that they lived in Mexico—were asked, that is, to make a mental leap into another culture, with very diffrent norms and values—and to tackle the problem of population growth in these circumstances.

As far as space is concerned, pressure of population would not appear to be an immediate problem, since there are only 59 persons per square mile. However, this figure is deceptive: vast stretches of Mexico are at present uninhabitable because of lack of water and the arid terrain. Although there has

been some modernization of agriculture in the past few decades, Mexico cannot now produce enough foodstuffs to feed her growing population. And the growth-rate is formidable. In 1949 the population was 19 million; in 1963 it was 39 million. So, although agricultural production has increased, and the standrd of living for most citizens has improved somewhat because of industrialization, Mexico still cannot produce enough food to cope with the population growth.

In tackling the question of population control, the group was asked to take into account certain socio-cultural factors and relevant "mind-sets." Thus, in Mexico as in other Latin American countries, the concept of machismo—the need for a man to demonstrate his virility by siring children—is deeply rooted and clearly relevant. Again, one must take into account the Mexican (Latin) love of small children. The role of the Catholic Church is particularly important. The church, which has regained much of the ground that it lost during and after the Revolution, remains a predominantly conservative institution. Attempts to tackle the problem of population-pressure must take into account the widespread *anti-yanquismo*. And so on.

After the problem of population control was outlined, it was hoped that the group would consider the allied question of food supply, using a dramatic presentation. Time lines were drawn on the floor, each representing a ten-year span, and the group's space was accordingly diminished every five minutes, to demonstrate the pressure of population on resources.

What Actually Happened

The group seemed to be considerably disturbed by the noise which accompanied the session. Many were not inclined to take the matter too seriously; in spite of my efforts to "set the Mexican scene" for them by giving facts and outliing cultural factors, they seemed to feel that it was merely a funny situation.

One member proposed to take off for the moon, where there would be no such problems. Others more constructively suggested setting up birth-control clinics in all cities. It was pointed out that Mexico had few big cities, and the bulk of the population still lived in villages of less than 500 people. In this situation the cost of setting up an adequate network of clinics would be prohibitive. How could we provide money for this in a poor country? The only answers given to this were completely light-hearted—(a) start producing marijuana on a large scale for the U.S. market, and (b) persuade Americans to come south and adopt the excess progeny of the Mexicans. When I suggested that Mexicans had a very different world-view, I was chafingly accused of prejudice; there was no real effort to cope with this key question.

Some members of the group, in fact, would not admit that there was a problem. They said that (1) we have not yet begun to harvest the vast resources of the sea, and (2) that "communications" would solve all problems. The question was asked, "Who would provide money for the necessary research?" This was dismissed as an attempt to make things difficult. When asked what would happen in the intervening years, when the research was being done and new methods of communication developed, the group dismissed this as not

being worth discussing. Some members simply retired to a corner, and left it to others to solve—or fail to solve—the problem.

What I learned from the situation was that what happened in our group in many ways resembled what happens in real life:

1. Many people (perhaps the majority) do not become involved in important issues beyond their personal concerns; they retire and leave the decision-making to others.

2. Many people refuse to admit that a problem (however obvious to others) really exists—and therefore see no point in wasting time trying to tackle it.

3. Many of the solutions proposed were notably unrealistic, and those who advanced them failed to consider whether or not they could get a measure of agreement on them.

4. There was a general, and regrettable, lack of empathetic imagination in considering the problems of a very different socio-cultural environment.

USA

Participants' Impression:

Our group just did not seem willing to make any decision. I kept trying to suggest alternatives—like going to Antarctica or the moon, or developing desert areas in the U.S. but they were not willing to listen. One group member was quite concerned and he and I invaded China while they were away at war. The country was very easily taken while the army was away, but the army soon returned and threw us out bodily. My friend, who was most creative, built us a raft quickly and we survived the first onslaught. An atomic physicist was building an underwater city and invited us to join him—there were not many people interested in this venture and he was rather lonely. We were by now desperate for food and friends and together accepted his invitation.

Eventually, we wanted to go back to the United States to visit families and friends. I went first—when the steamship arrived in port, it was met by some very hard-nosed authorities. They refused to let us in. No immigrants were being admitted—no tourists. The country was overcrowded and citizens who had left were not being readmitted. Three things became clear to me as a result of this game.

1.When people refuse to tackle a problem, or even admit there is a problem, I become very emotionally involved and upset.

2. The stress of the situation created a real camaraderie between me and the other "frustrated" person.

3. The rights and privileges of being a U.S. citizen have led me to believe that I am important as an individual, and the lack of regard for me as an individual when I sought reentry into the U.S. shocked and upset me. I argued with the rules, stressed my rights—nothing helped. The emotional impact of that encounter I shall remember for a long time.

JAPAN

Recorder's Impressions

The group of which I was monitor was pushed closely together by a large rope on the floor, which, as in every other group, was tightened at five-minute intervals representing the continual population squeeze forecast for the future. The individuals were then told that their particular country was Japan which was represented on the wall in the corner by a large poster featuring photographs of crowds of Japanese and a graph of population growth. They were then asked to read the page which had been given them (see Figure 3) and were told that the symbols meant "A Great Scarcity of Food." They were asked to allow this thought to guide them in considering their first problem. As a symbolic representation of this first problem, a piece of bread was tied above their heads: a small amount of food for a considerable amount of people. The participants were asked to discuss ways of increasing this supply.

The group at once became very agitated with the exception of two individuals who became quite sullen. One of these individuals "immigrated" within the next couple of minutes, the other began to later contribute to the group. One participant set himself up as recorder and wrote down and organized the suggestions. (See Figure 4.) Their basic suggestion for increasing the food supply was to use the sea and learn how to make food products from algae. They also wished to keep up a favorable balance of trade and one of their colleagues was sent off to sell motorcycles and radios to the other countries. They felt that they had made good suggestions and as a reward were allowed to take down the bread.

JAPAN

The problem of food supply and population is a chronic one for Japan. Only 1/6th of the land is cultivated, making the Japanese population per unit of production the highest in the world.

Japan has 1/2 the population of the United States but is only 1/25th the size of the U.S.

As you discuss the food problem in Japan, remember it is an example of the immense problem the world faces. As you are talking, 225 babies have been born a *minute*,but only 93 people have died.

FIGURE 3

JAPAN

SUBJECT: Suggested Solutions to Food and Population Problems

Participants' Impressions

I. Expansion to the sea.

   a. Food from the sea algae and other marine life.

   b. Cities will be built under the sea if the population cannot be controlled.

   c. Build cities on large floats expanded from the land.

II. At all costs maintain a favorable balance of trade.

III. Support immigration.

IV. Birth control.

   a. Mandatory sterilization after two live births to include couples already with children.

   b. Monetary reward for abortion.

V. The final effort would be expansion into China but this would occur only if absolutely necessary.

VI. Other suggestions (minority).

   a. Selective breeding.

   b. Survival of the fittest.

   c. Mass murder.

   d. War as the first alternative.

FIGURE 4

They were then told (space was getting less and less) that they should do something about their population problem. One individual suggested that all people of child bearing age be sterilized for a period of ten years. This was felt to be too radical by the group and they disapproved of the tremendous generation gap it would cause. The rather vocal individual who suggested it and refused to back down was forcibly removed from the country. After his removal the group was able to compromise and decide on sterilization after two live births. Their other suggestions included payment for abortions, support of immigration to other countries and an emphasis on the glories of single life and small families.

It was interesting to watch the group at work. One or two members were obviously not interested and felt it all a silly game. However, the rest of the group responded very actively and were even willing to throw out members who they felt would not cooperate. Interesting to note, they also refused to allow new members to enter the group and by the end of the experiment had developed a real group consciousness. There were only two women in the group, both very petite and they left the group quite early and stood outside as onlookers. I would surmise that they felt uncomfortable so close with men, most of whom were large, and preferred to leave for this reason rather than disinterest in the group. They assumed more or less a cheerleader role but this was unfortunate as the group missed a feminine voice which might have raised opposition to the group's proposals of methods of mass birth control.

"MISSION ISOLATION"

This final vignette represents rathr clearly the combined creative talents of teachers and media specialists. It also shows a sequence of social interaction of nine-year-olds at the fourth grade level that is interesting and provocative.

The basis for this unusual situation was the development of a unit on Antarctica. As the unit was studied and revised and ideas added or deleted, someone suggested that the idea of isolation, or remoteness, was not developed to any degree, and that the feeling of desolation and loneliness associated with these ideas could hardly be plain to children unless there was some way of helping them to understand this feeling and some of its related implications such as the effect this might have on research, or on the development of permanent dwellings.

The problem was to find a way of helping the children understand this rather abstract idea. We felt that perhaps an actual experience could be arranged to assist them in making the mental leap that was necessary from the feeling of aloneness to the general idea of isolation and its surrounding implications.

Procedure: The media specialists and the fourth grade teachers jointly decided to look at this as an experiment and to present the idea accordingly to the children. They located a fairly large storage room (l0' by 12' approximately) that had considerable open floor space with boxes, rolls of butcher paper and some books along the sides. A desk and chair were moved in for each child, as well as a blackboard, a few games, and a chair for the observer (the media specialist). Volunteers were sought for this experiment, now called "Mission Isolation." Many children were anxious to participate and two were chosen at random from each of three fourth grade rooms. Each child was given an assignment (see List Number 1) and a time schedule (see List Number 2) that would give a rough idea of the time and tasks

remaining. A briefing was also conducted (see List Number 3) and the children were told that they would be accompanied on their mission by the media specialist (they all knew and liked her), but that she would not talk to them nor do anything for them except to help in emergencies (e.g., piloting them to Isolation location, taking them to rest rooms, etc.). The children were blindfolded and led around the building several times to further promote the idea of isolation and finally deposited in a strange room (with media specialist) for the school day. A tape recorder was placed outside and conversation was taped by the specialist. In addition, she wrote running comments about children's behavior. The following edited account gives the meat of the performance.

LIST NUMBER 1

ANTARCTICA TASKS

Tracy
Elizabeth
Andrea

Jack
Donald
Tony

Tracy - supposed to keep us happy. Write every half hour what we laugh at.

Liz - write the feelings of the group every half hour.

Andrea - write what the group is doing or has done every half hour.

Jack - Have a phys ed activity every half hour.

Donald - check the temperature in the room every half hour.

Tony - take pulse of each child every half hour and record it.

LIST NUMBER 2
SCHEDULE FOR MISSION ISOLATION

8:40 - 9:15	Daily routine and briefing at Headquarters.
9:15 - 9:20	Journey to Mission Quarters. Meet fellow agents.
9:20 - 10:15	Carry out individual assignments.
10:15	Liquid refreshments outside Mission Quarters, one at a time.
10:20 - 10:45	Continue with assignments.
10:45	Written communications from Headquarters.
10:45 - 11:15	Continue with assignments.
11:15	Liquid refreshments outside Mission Quarters, one at a time.
11:20 - 12:15	Continue with assignments.
12:15	Liquid refreshments outside Mission Quarters, one at a time.
12:15 - 12:30	Continue with assignments.
12:30 - 1:00	Lunch airlifted in. Communications from outside.
1:00 - 2:00	Continue with assignments.
2:00 - 2:45	Return and report mission to Headuarters.

LIST NUMBER 3

BRIEFING

1. Wear your jacket or coat. Take a sweater if you have one.

2. Take with you your folder with schedule and paper for recording your task results, two pencils, your rations.

3. Choose one recreational item—a book, drawing paper and crayons or scissors, a game, etc.

4. Take your lunch tickets and/or cold lunch.

5. Read carefully your task. You may not *tell* your task to the other agents, although they will probably soon discover it.

6. Read the schedule carefully and follow it carefully.

7. You may use the bathroom whenever necessary—one at a time.

8. You may talk, play, etc., with your fellow agents in Mission Quarters.

9. You may talk with other people before 9:15, at 12:30 and on your return to Headquarters ONLY.

10. Be prepared to report your task and your feelings about this mission to the Fourth Grade shortly after 2 p.m. today.

BEST WISHES FOR A SUCESSFUL MISSION!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!

MISSION ISOLATION

9:30 Cross and disorganized. Tracy decides to use boxes, begins rearranging. Tony decides to eat crackers. Discussion of eating vs. saving. Discussion of getting a drink—some say no, see assignment sheet.

Slight argument about assignments—some say now—some say schedule said to do it at 9:20—should we wait for next hour or try to do it now even though it is too late.

Jack playing. Others scolding. Elizabeth very happy and looking things over. Discussion of being taped. They notice microphone.

9:50 Jack disturbed about time—asks every 5 minutes. Andrea beginning to observe the room—the pipes. Questions. Elizabeth drawing a clock on blackboard—to let everyone know the time.

Great concentration on the time—concern. Tracy giving me a good scrutinizing. A whole minute of silence. The idea is beginning to settle in. Elizabeth breaks it—says, "I'm getting restless."

9:55 Attention to tape recorder mike again.

"This is Tracy. Are you there?" (spoken into mike)
"People of this country I now pronounce that I am . . ."
Laughter
"I'm starting my assignment now. I go to do from 10:20 to 10:25."

"It's twenty-five of ten."
"She can't answer us unless it's an emergency." (media specialist)
--- (whistling)
"Tracy, are you still on your first page or on your second page?"
"I don't even know what to do."
--- (giggling)
"Anybody know what time it is?"

10:00 Everyone moving around, talking about their preparation. Andrea lost her pencils—Tony offers her one. Andrea working quietly—keeps checking the time.

10:05 Don restless—attention to mike again. Don bored, says so. Says he will sleep awhile. Jack and Tony having words—Tony apologizes.

10:07 Elizabeth trying to organize a spelling bee. The girls accept. Jack climbs up on window sill—reading quietly.

10:15 Elizabeth organizing again—for a moment all are involved. Laughter over Jack getting the word "scientist." Real sharing laughter—develops to silliness—Jack announces it is past 10:15! Everyone fired with energy—running around—getting their schedules—getting the watch—flurry of activity—dies

out to nothing. Andrea asks for the 10:15 liquid refreshments—two take her to tea room. One at a time, they get a drink.

10:30

"Look what she's doing. She's writing about us." (media specialist)
"OK. Andrea, look."

"I mean he goes to all the classes when someone wants to say something."
"Can we write to them—something to say to our class?"
"Oh, no they have to send their address to you. That's what my thing says."

"Hey, what time is it? I need the watch a minute you guys. I need a watch."

Tony taking pulse—hand over Jack's heart.

They *decide* to look forward to room's communication.

10:40

Accident. Tracy sits on a roll of paper—it falls down. All are only momentarily distracted—return to other things at once. Don being physically active—climbing and jogging. Elizabeth trying to tickle Andrea. Tony at his task. Tracy at her task. Jack and Andrea drawing.

10:45

All discussing messenger's probable message. All interested.

Elizabeth and Andrea acting silly—wrestling, giggling.

"Is he out there?"
"When's he coming?"
"He was supposed to be here a long time ago."
"I know it."
"He's off schedule."

"He's an unreliable person."
"Ah! I'm telling that."
"Big deal. I oughta know."

Two or three chant Elizabeth's name. There are squeals.

All subdued because message is late. They are blaming the boy they thought would come—"He just forgot." "Where's Carlson?!" "He's off schedule!"

10:55

Wow! What a flurry—Andrea discovers the letters! Such love for their classmates: "Finally to get a letter! Oh, boy!" Elizabeth says, "not much news." Tony, Andrea, Tracy read them over again. Andrea shares her letter (the joke). Elizabeth moves the furniture—the group reorganizes the tables and chairs—all eager. The message has cheered everyone—they are talking about sending a message back! Talk, talk—now writing and thinking. Quiet for about 2 minutes. "How do you spell LaPierre?" "Look on your note." "Right."

11:05 "Hey, you guys teacher enclosed a joke in our letter.".

"I'm sitting right there."
"Hey, wantta go look at the joke in our letter?"
"Yeh."
"What flower tells what teacher did when she sat on a tack?"
"Oh, the teacher sat on a tack."
"Yeh."
"What?"
"A rose."

11:15 Squabble over letters. "You wrinkled mine! Tony! Cut it out!"

Play between boys—toss paper cup around. Don makes paper airplane.

Don and Jack throwing paper all around—Tony remarks about it—

". . . we're doing an awful lot of hossing around."
"Elizabeth we're not even going to get . . ." (bell rings)
"What time is it?"
"Quarter past eleven."
"Eleven fifteen. OK it's time for liquid ah—whatever you call it again."

"You're wasting your paper."
"Yes, time to . . . this again."
"Time for refreshments."
"What time is it?"
"Eleven fifteen."

"Eleven fifteen."
"Why doesn't it hurry up and be twelve-thirty?"
"Just a minute. Just a minute."
"I'm dying of starvation."
"You'd better hurry up. You've got a lot of work to do."
"OK everybody down there and you guys shut up too."
---------- (whistling, giggling)
"Exercises you guys."
"OK get ready. Get read."
"Come on. Quit moving around."

They exercise and count.

"Shut up, Donald."
"Shut up yourself."

11:20 I leave them alone and turn tape on.

"Will you get down?"
"Stop crying."
"I'm not crying."

"You're cranky, cranky Jack."
"Oh, shut up."
"Wasn't it just like this, Tracy?"

"It was like here I was ah Tracy and John and in the movie unwa."
"Shut up."
"Tony and Chrissi"
"Tony Winklebauer"
"How sweet."
"Hey, Sweeny you know what I found out? I found out that Jean is gonna be Jean Damon."

"Tiney, weeny, Sweeny a . . ." (they kept saying this)
"Will you guys be quiet? Andrea,come here."

"These are the master lovers."
"OK nobody else is co-operating."
---------- (screaming, laughing)
"Cut it out."
"I think they got me."
"Sweeny, we're supposed to be doing a test."
"What time is it, . . .?"
"Eleven-twenty."

"I've got to find out something."

There is more screaming, laughing, and teasing about lovers.

"Sock it to me, Tracy. Sock it to me. Oh! He's holding her hand. He's going to propose."
"Wow!"
"I ain't gonna let him hold my hand. If he does I'll kick him in the shins."
"If you do I'll kick you in the mouth."
"Get out of here. You leave me alone."
"Hey, you didn't take my pulse."
"You wouldn't let me."
"Where do you want me to take your pulse?"

11:45 They are all squabbling. No one cooperating on tasks—complaining, questioning me—aware of me now with irritation. I listened to complaints about each other but gave them no answers. They didn't seem to expect answers from me anyway.

Jack sulking. Tony very serious. Elizabeth trying to help Tony do his task now since she wouldn't earlier.

Don bored—checks his schedule—climbs back up to sit on window ledge.

Andrea and Elizabeth fooling with a narrative for microphone. "Polar bears are eating us up." "Lonesome and boring." Jack lonesome—wanders from point

to point in the room. Tracy has been in same spot for 30 minutes, seated high up in boxes in corner.

12:05 Jack and Tracy complaining about the lack of cooperation in the group. Elizabeth criticizing the boys for moving things into her way.

12:06 Discussion of liquid refreshments—disgust with the term. Now they're talking about food—hot soup!

Tracy—"How many hours have gone by,you guys?" Cooperative effort to count the hours—they talk about lunch again—"seems like 30 nours." "You couldn't go *that* long without lunch!"

Tony is concerned because the group is not behaving "scientifically."

"I'm gonna eat my lunch up here."

"Tony proposed to Tracy."
"Hey, I'm going to read my directions over again to see if I'm getting them right."
"Sweeny loves Carlson. Sweeny loves Carlson. Is that true?" (in mike)
"I hate Ricky Carlson."
Kids in the background say, "That's lie. She loves him. She loves him."
"I hate Tony . . . guts. I hate Ricky Carlson's guts. I hate Steve Murdock's guts. And ah who else is there?"
"She hates . . . guts too."
"You better believe I do."
"She hates boys' guts."
"She loves Tony."
"Hey, Andrea, I haven't been taking my turn."
"Poor tape recorder. I killed it."
"Come on you guys. What time is it?"
"Nearly 12:15."

12:12 Elizabeth—"Creepy in here just seeing some old people."

12:15 Beginning to talk about past experiences—"needle in my foot once."

Don—"if we were locked in a time-lock for a half year, what would we do?" Time losing its importance now.

12:20 Tony and Don planning what they'd do if they could stay in here for a year. Lots of food necessary. *Lots* of food.

"It's off schedule now. Come on, Andrea. Andrea, it's a checker game."
"It's twenty-five after twelve."
"I'm starved."
"Andrea, she might eat our lunch. Andrea, stop fooling around. She has the on the tape recorder."
"Hi tape recorder friend."
"Stop fooling around."

There is a scream for Andrea.

"Hey, Elizabeth, 12:25."

Some boy tells what he has in his lunch.

". . . friends we are in a very tight room today. It's kind of stuffy and weird and Jack is throwing . . . at us. And Andrea looked out to see if it was going and it was."
"I'm Jack. That's a lie about me."
"Hey, fellow boys she has beautiful underwear."
"I do not."
"She's a liar to her mother."
"I am not."
"The tape recorder is on."
---------- (laughter)
"Lizzie just lifted up my dress."
"You're darn right I did and I'll do it again."
"You can eat."
"Oh, ice cream."
"Can we start now? Can we start now?"
"Wait a minute we ought to say grace."

"Where's the wastebasket? Everyone watch this long short to the wastebasket."
"I'm not going to get into trouble for what you guys did."

12:32 Everyone eating—very content, examining their food—wow! "Hey, this is pretty good stuff." Eating quietly and happily. No conversation for two or three minutes. Elizabeth and Andrea feeling silly—halfway through lunch. Everyone appreciates their lunch and says so, except Don—he tries to arrange a swap for his fish sandwich; nobody will part with anything. Tony asks for my ice cream (I can't refuse, but Jack offers his in a burst of kindness)—everyone happy.

12:42 "Where are our communications?" "How come we were chosen?" Lots of reasoning.

1:00 Girls discuss what games we could play—Blind Man's Bluff—Tony volunteers to be Blind Man.

Jack asks about tasks—is ignored.

1:07 Tracy still up in the corner—she has had *no* exercise for hours. Everyone else running around and hiding from Blind Man. Tracy writing. Sudden concern for the time—"should we work?" Everyone but Tracy really involved in game now—laughter and gaiety. Jack seems very happy now. Tracy leaves her perch. Andrea comments, "What happened to our lunch letter?" "It didn't come, did it?" from Tracy. No great concern.

1:20 The girls are attacking Elizabeth's attitude. "Tend to your *own* assignment," "Never mind us, Elizabeth, go do your own work." "Leave us alone!" "Stop bothering us!"

Tony has become quietly cross. The others ask him questions—he just says "no . . . no . . . no . . ." with clenched teeth. "Elizabeth, it's *my* job, let me have my watch back—*I* will do it.—Now!"

1:25 Andrea defending Tony—Tony turns on her with "*Never mind,* Andrea!"

1:30 Tony demands Tracy come down and have her pulse taken. She comes down. Then laughs and says, "You savage!"

1:35 Tracy, Don and Elizabeth decide to play a game on the blackboard. All seem attentive to it. Jack joins the game. Tracy returns to her recording, and Tony tries to find his chart. Locates it—leans over it, really thinking. Don retreats to window sill—writing.

1:40 Everyone working hard—all boxes moved back, giving each other a hand. Tracy gets the idea of signing our thanks on the blackboard. Everyone forgetting to look ahead to "getting out"—while the work lasts. Room is restored to order.

1:50 "Hey, everyone, almost time to go home" says Tony. "Oh, yeah," says Jack. Don—"Where's my watch? Listen, you mad scientists, where's my watch?!" He finds it. Quiet now. Andrea becoming very housewifely—"Is everything done, everybody? Let's be sure to leave things neat, huh?" No one listens or responds. She picks up scraps of paper.

1:55 "Let's pack up!" from Tracy.

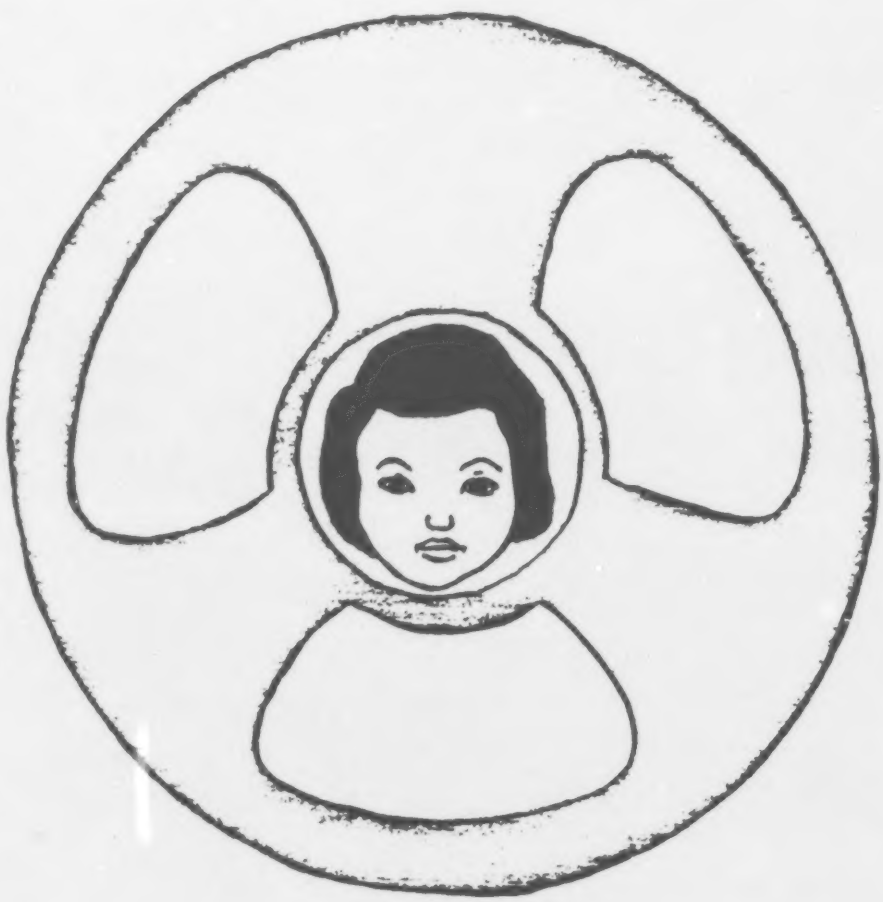
At 2 o'clock on the day of isolation, the children returned to the classrooms. They were asked what they thought and felt about their experiment. One boy felt that it was stupid, and that he should not have been in the group because he was not in the first reading group. This point had not been discussed by the children and the experiment had no relationship to reading achievement. The teachers could not determine the reason for the child's feelings. Other children enjoyed the experience but thought that it was awfully long.

These children served as experts on the "feeling of isolation" whenever this related to the information being studied. The children enjoyed the expert role and the chance to describe their own feelings of frustration when they were isolated.

If you were a careful reader, and perhaps, also one who makes inferences as he reads, you may have observed that many topics were covered (e.g., food, fourth grade, sex talk, tasks and friends). All the topics actually seem to be likely candidates for adults-in-isolation conversation.

CHAPTER 6

MULTIMEDIA NETWORK: A SYSTEMS APPROACH TO CURRICULAR DESIGN



CHAPTER 6

MULTIMEDIA NETWORK: A SYSTEMS APPROACH TO CURRICULAR DESIGN

Many teachers use media on occasion in the classroom. They find it very stimulating for beginning a unit emphasis and useful for providing bits of information as the unit ideas are developed. Some teachers have difficulty deciding when and where to use the media that is available on a given topic. Most of them would agree that technology used advisedly in the classroom stimulates thinking and provokes the curiosity of the students.

There are many potential stimulants for children's curiosity in programs on TV, articles in magazines, and movies that expose children to snatches of information about different cultures and countries. A child's curiosity may be aroused by these various stimuli, but the kaleidoscopic view of any topic may be misleading. Moreover, the child may not organize and interpret the information he has collected, and he may not be aware of the process by which this can be done.

A careful, systematic investigation of selected topic can help a child acquire a more accurate picture, and promote an appreciation of the intricacies of that body of content. The child may also gain an understanding of the process he uses in organizing and interpreting information. However, there are problems associated with the implementation of such an idea. Data must be collected and organized, audiovisual materials coordinated, and learning experiences involving the children must be planned.

The problems cited here are magnified when studies of a broad nature are developed. For example, when the emphasis is on Ecology, the average teacher faces an almost insurmountable task. Resource materials are seldom written for elementary school children. Most teachers have not had the advantage of training in content in this new field, and so feel somewhat inadequate in background. It is difficult to find resource persons who have and can speak intelligently and interestingly to elementary school children about their experiences or direct training on this topic.

Even when materials are to be found, there are major problems related to organizing the material. Ecology is a broad topic, to say nothing of a changing one. The breadth of topic alone presents a challenge for teachers.

It might be wise to select some subtopics that are representative of certain specifications dealing with ecology, such as ecosphere, atmosphere, and so forth. This technique is referred to as "post holing" by Taba (1971) and others, and it reduces the number of specific situations the student investigates. Reading about even this select sample may not be an adequate means of transferring information to children. They need more dramatic and direct involvement in attempting to learn about other people, and the experiences that are meaningful for one child may not be suitable for another. It would seem therefore, that the organization and utilization of audiovisual materials should be adapted to the needs of the individual child, but this is a difficult task.

MULTI MEDIA NETWORK

Recognizing these problems as real and significant ones, a curricular design was developed to assist the teacher. The design being suggested proposes an organizational arrangement, a model or a flow chart for the incorporation of media as an integral part of the research process. It provides the teacher with a prestructured sequence of resource materials, methods for using materials, and suggestions for class organization. The network gives the child an opportunity to select a facet of the content base that interests him and it guides him in locating and utilizing relevant resource materials. It maximizes the use of audiovisual materials, encourages social interaction and emotional involvement, and emphasizes frequent expressive activities and systematic evaluation.

There are six steps in the complete sequence:

1. The general introduction to the subject.
2. Definition of categories.
3. Collection of data from various media by different groups of children.
4. The synthesis of data in small groups with teacher assistance.
5. A cooperative evaluation of pupils' progress and a reinforcement or extension of the material studies.
6. The exchange of information between groups.

In the description of this particular application to the study of Ecology, we have given examples of film titles, books, and group activities that can be used in the classroom.

General Introductory Stimulus

Use the Ecosphere Checklist on a brief field trip (checklist follows). Also examine a book (*Forever Wild* is an example) with the class. Make a list of the things they saw.

Category Identification

The items the children saw are then grouped and labeled by them to evolve the categories they will study. The method used by the teacher in assisting the children is based on the Taba technique(Taba, *Handbook for Elementary Social Studies*, 1971). Many of the categories can be anticipated by the teacher, such as: hydrosphere, biosphere, atmosphere, lithosphere, and noosphere. The children occasionally may suggest different category labels. Other labels are acceptable, perhaps even desirable and general materials can be located to aid in the investigation of an unanticipated category. The teacher can find assistance in locating needed materials by consulting with the school librarian or the media specialist in the school. (It is difficult to execute this design as a solitary classroom teacher with no assistance available.) Each child now selects a category that interests him and studies it in a small group or individually.

Data Collection, Interpretation, and Analysis

There are two stages of data collection for each category. First, the basic, concrete data pertaining to the category are collected by members of the groups; then, after the group interaction and pupil progress evaluation, some of the children will want to collect data of a more complex or definitive nature pertaining to in-depth study topics. Still others will select a second category and collect information about it just because it interests them.

During each stage of data collection, a child goes through a sequence of similar steps using different media. The sequence is somewhat arbitrary and may be determined by the teacher or the student. Some teachers have chosen to follow a strict sequence of input, output process; others allow the children to use the media when and where they wish in any order the children deem appropriate. In certain cases the approach chosen may depend on class composition and class experience in carrying out independent research.

After a child uses an audiovisual medium (film book, opaque projector) an expressive output is suggested. Here again there is a wide range of freedom in the degree to which the teacher may specify the kind of output.

Research Synthesis

After each child in a group has completed the sequence of activities in the data collection phase, the group meets to coordinate their efforts. The teacher serves as a small group specialist in assisting the group. She may help them pull their data and materials together into a shareable form.

Research Evaluation

When the group has completed this collection and synthesis of materials, an evaluation is made. This may be in the form of a sequence of questions dealing with the content emphasis, a problem situation that requires a solution, or a social problem situation emphasizing personal identifiction and involvement. The performance of each child is cooperatively assessed by the teacher and the child jointly, and a decision is reached regarding the need for reinforcement or the possibility of an in-depth study. Three choices are open to the child at this point. Following the decision regarding the child's performance:

1. He may choose another category and again go through the data collection, interpretation, and analysis steps.

2. He may reemphasize or extend his previous study in which case he will utilize new media to reinforce the category he has been studying.

3. He may make an in-depth study of the same category dealing with a particular facet of that category.

Information Transfer

Different means of presenting information to the class are possible. Each child may present a brief report to the class, as suggested by the teacher, or the children may devise their own method of sharing information with their classmates. Some of the ideas children use frequently in presentations are plays, puppet shows, songs or dances from other lands, group designed games that involve the class, and reports that use child-produced visuals.

Some teachers share information by conducting total class discussion summaries of main ideas for each category. This is done to promote learning in categories other than the one a particular child has been investigating. Students should be encouraged to make an effort to involve the listeners in the sharing process also so that maximum learning takes place. Such introductory statements as, "We will vote on the book you liked best when the reports are finished" or "You may ask questions about the material whenever you wish" may help focus the students' attention on the topic being presented.

For a graphic description of the sequence just described see Figures 5 and 6.

See Appendix A for two examples of the ecosphere checklist.

TEACHER'S ROLE

When using this curricular design, the change in the role of the teacher is worth noting. In using a systems approach the students undertake independent research activities with the assistance of the librarian or media aide and the teacher becomes a small group interaction specialist and a guide for directing research. The teacher selects and carries out one or more of the following tasks according to the needs of a particular group of children.

Research director with small groups in using media to examine content with a problem focus or to find an answer to a research question.

Discussion leader following a prescribed sequence of media input, using high level questioning sequences (see Taba, *et al.*, 1971).

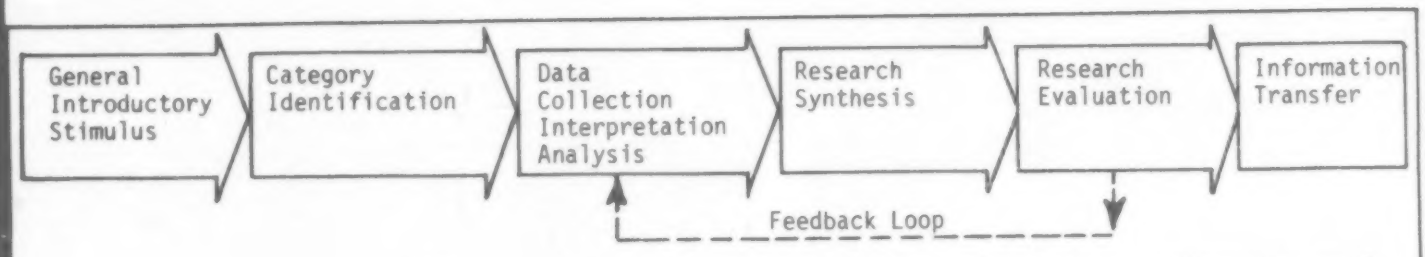
Role-playing specialist conducting sessions that deal with attitudes (the role-playing method described by Shaftel and Shaftel, 1967, are recommended here).

Grouping specialist assisting the students in organizing small groups.

Manage the flow of students from the classroom to library and/or media center.

Organize the class for sharing sessions.

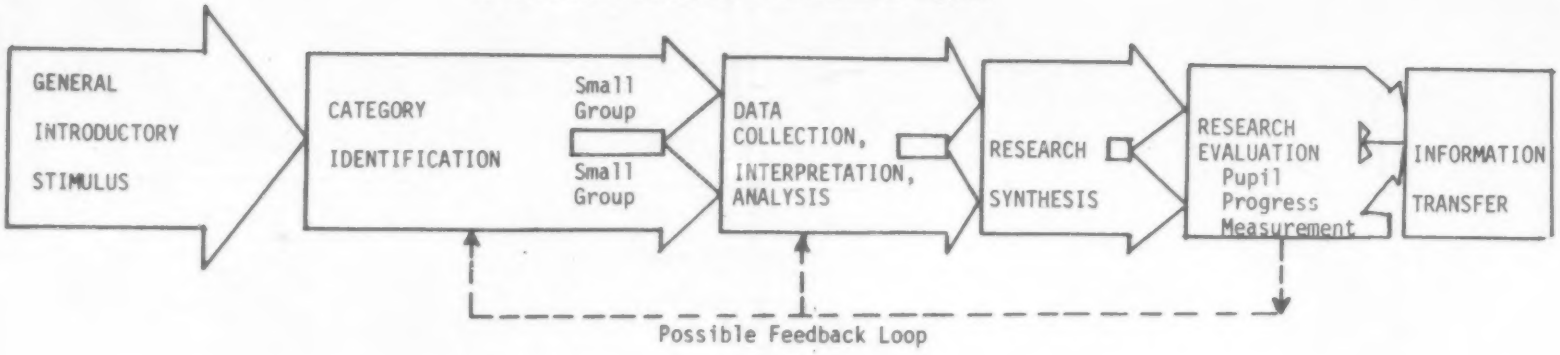
Evaluate pupil progress in each skill area.



Field Trip	*Categories*	*Media Input*	*Suggested Output*	Read together *Water Our Most Valuable Resource* by Ivan Green. Make a mural, showing bodies of water and sources of pollution.	Have each pupil make a collection of possible solutions to the problem of pollution as it affected the area he investigated.	Share the mural, mystery stories, and other important information with the class. As a class, respond to "Man's role in Pollution Clean Up."
Use Ecosphere checklist Also examine in classroom *Forever Wild*, book about Adirondack State Park	Hydrosphere Biosphere Atmosphere Lithosphere Neosphere	Disney film: *Mysteries of the Deep* Read: *The Tale of a Pond*, by Henry B. Kane Filmstrip: *Sea, Beach & Tide-pools* Read poem: *The Brook* by A. L. Tennyson	Choose one mystery. Write a report on it. Do not use name of mystery character. Draw a picture of a pond you have seen. Make a list of the living creatures you saw in the filmstrip. Illustrate the poem or write your own.	Feedback Loop	In-depth study: Oceans, Water Pollutants, etc. *or* Reinforcement: Film: *Secrets of the Underwater World*, by Disney	

Figure 6

A SYSTEMATIC APPROACH TO CURRICULAR DESIGN



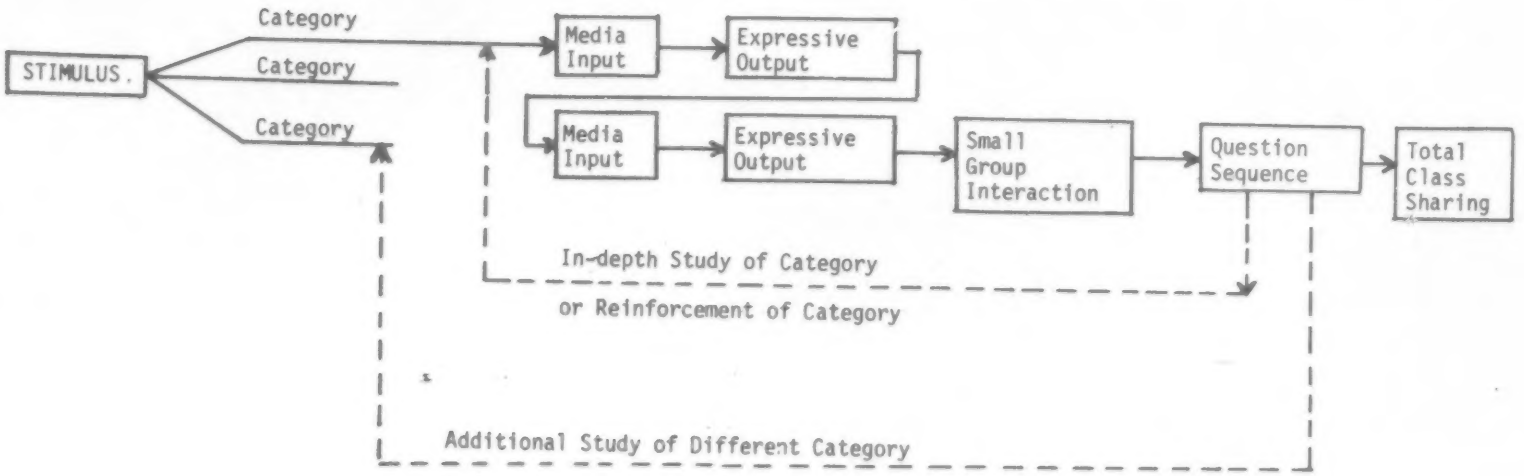


Figure 5

LIBRARIAN/MEDIA SPECIALIST'S ROLE

The librarian and/or media specialist is a very important person in this network curricular design. The following special tasks are most often accomplished by the librarian who handles both book and non-book materials for the classroom that is conducting research using the network design.

Give instructions to students in proper use of resources (books or media)

Help students locate needed research materials

Provide a pleasant atmosphere in which to collect and organize research

Share with teachers and students new books and materials that are available

Volunteer to serve as instigator of research by providing presentations on exciting topics

Stress variety of book and non-book materials, and set the model for use of these in your "home" area

The assistance provided by the media aide and the librarian make it possible for the children to work independently during this phase of the project. The children do, however, need some assistance in using equipment. The amount of help required depends partly on the age of the children and partly on their previous experience with equipment. Most sixth grade children handle the machines carefully and conduct their research independently and efficiently. Fourth graders may work in small groups and require some assistance in the operation of equipment. Second graders seem to have difficulty conducting completely independent research, but use some media as a total group with the teacher assisting, and some in small groups or pairs on an independent basis. The movie projector and the reel-to-reel tape recorder are difficult for very young children to manage. The ordinary cassette tape recorder can be operated easily by school age children if they are shown the procedure and allowed to practice once or twice.

The unit on Ecology that is suggested requires a multi-media approach because of the lack of readable materials at the elementary level and because a multi-sensory approach seems to make an abstract concept more real to children. It is not necessary to use this kind of curricular design in every class. Some teachers, in trying this approach, have found that the organizational design was useful for other subjects, and they have used part or all of the multi-media network in other content areas.

CHALLENGE FOR TEACHERS AND LIBRARIANS

In the descriptions presented in the preceding chapters, and in the curricular design explained in this chapter, teachers have been portrayed as persons who facilitate learning. They have been described as grouping specialists, as persons who provide research materials and opportunities, and as people who encourage creative, unique approaches to learning. Librarians and/or media specialists have helped in classroom settings and in the delivery of a multi-media emphasis for research in the school library or learning center. These roles they carry out efficiently, but perhaps their most significant role is that of model in the learning situation.

Teachers and librarians can demonstrate an enchantment with learning that will serve as a model for the curious, imitating children in the classroom. A love of learning can burn brightly enough to light flames of learning in children.

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